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IRON AND STEEL POINT SOURCE CATEGORY

Proposed Effluent Guidelines and Standards

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 420]

[FRL 417-6]

IRON AND STEEL MANUFACTURING POINT SOURCE CATEGORY

Proposed Effluent Guidelines and Standards

The Environmental Protection Agency (EPA) is hereby giving advance notice of intent to propose and promulgate effluent limitations and guidelines for existing sources and standards of performance and pretreatment standards for new sources set forth in tentative form below. On June 28, 1974, EPA promulgated a regulation adding Part 420 to Chapter 40 of the Code of Federal Regulations (39 FR 24114). That regulation with subsequent amendments established effluent limitations and guidelines for existing sources and standards of performance and pretreatment standards for new sources for the steel making segment of the iron and steel manufacturing point source category. The regulation set forth below when promulgated will amend 40 CFR, Part 420—iron and steel manufacturing point source category by adding thereto the hot forming—primary subcategory (Subpart M), the hot forming—section subcategory (Subpart N), the hot forming—flat subcategory (Subpart O), the pipe and tubes subcategory (Subpart P), the pickling—sulfuric acid—batch subcategory (Subpart Q), the pickling—hydrochloric acid—batch and continuous subcategory (Subpart R), the cold rolling subcategory (Subpart S), the hot coatings—galvanizing subcategory (Subpart T), the hot coatings—terne subcategory (Subpart U), the miscellaneous runoffs—storage piles, casting and slagging subcategory (Subpart V), the cooling water blowdown subcategory (Subpart W), the utility blowdown subcategory (Subpart X), the maintenance department wastes subcategory (Subpart Y), and the central treatment subcategory (Subpart Z), pursuant to sections 301, 304 (b) and (c), 306(b), 307(c), and 501(a) of the Federal Water Pollution Control Act as amended 33 U.S.C. 1251, 1311, 1314 (b) and (c), 1316(b), 1317(c), and 1361(a); 86 Stat. 816 et seq.; (Pub. L. 92-500) (the Act).

This advance notice of proposed rulemaking is being issued pursuant to EPA's policy for early rulemaking proceedings to provide the interested public a greater opportunity for review and comment. In developing the requisite data to support effluent limitations, guidelines and standards EPA commissioned a study and report entitled "Development Document for Effluent Limitations Guidelines and New Source Performance Standards—Iron and Steel Industry: Hot Forming and Cold Finishing Segment" prepared by Cyrus Wm. Rice Division, NUS Corporation, Pittsburgh, PA dated July, 1974, and an Addendum thereto dated August, 1974. Copies of these contractor's reports have been circulated among industry representatives, government agencies, public interest groups, and other interested persons, and comments have been received thereon. In light of these comments, as well as its own review of the reports, EPA presently intends to establish regulations which differ in some material respects from the recommendations contained in the contractor's report. The purpose, therefore, in giving this advance notice is to apprise interested persons of EPA's expected course of action, and to provide such interested persons with an opportunity to submit comments thereon.

In addition, this advance notice is given so as to obtain the aforesaid comments in sufficient time to enable EPA to promulgate effluent limitations guidelines and pretreatment standards by December 1, 1975, in accordance with the order of the United States District Court for the District of Columbia in Natural Resources Defense Council, Inc. v. Russell E. Train et al. (Civil Action No. 1609-73; order entered April 24, 1975, modifying previous order of November 1, 1974).

(a) *Legal authority* (1) *Existing point sources.*

Section 301(b) of the Act requires the achievement by not later than July 1, 1977, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of the best practicable control technology currently available as defined by the Administrator pursuant to section 304(b) of the Act. Section 301(b) also requires the achievement by not later than July 1, 1983, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of best available technology economically achievable which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to section 304(b) to the Act.

Section 304(b) of the Act requires the Administrator to publish regulations providing guidelines for effluent limitations setting forth the degree of effluent reduction attainable through the application of the best practicable control technology currently available and the degree of effluent reduction attainable through the application of the best control measures and practices achievable including treatment techniques, process and procedure innovations, operating methods and other alternatives. The regulation proposed herein sets forth effluent limitations and guidelines, pursuant to Sections 301 and 304(b) of the Act, for the hot forming—primary subcategory (Subpart M), the hot forming—section subcategory (Subpart N), the hot forming—flat subcategory (Subpart O), the pipe and tubes subcategory (Subpart P), the pickling—sulfuric acid—batch subcategory (Subpart Q), the pickling—hydrochloric acid—batch and continuous subcategory (Subpart R), the cold rolling subcategory (Subpart S), the hot coatings—galvanizing subcategory (Subpart T), the hot coatings—terne subcategory (Subpart U), the miscellaneous runoffs—storage piles, casting and slagging subcategory (Subpart V), the cooling water blowdown subcategory (Subpart W), the utility blowdown subcategory (Subpart X), the maintenance department wastes subcategory (Subpart Y), and the central treatment subcategory (Subpart Z), of the forming and finishing segment of the iron and steel manufacturing point source category.

(2) *New sources.*

Section 306 of the Act requires the achievement by new sources of a Federal standard of performance providing for the control of the discharge of pollutants which reflects the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants.

Section 306(b)(1)(B) of the Act requires the Administrator to propose regulations establishing Federal standards of performance for categories of new sources included in a list published pursuant to section 306(b)(1)(A) of the Act. The Administrator published in the FEDERAL REGISTER of January 16, 1973, (38 FR 1624) a list of 27 source categories, including the iron and steel manufacturing category. The regulations proposed herein set forth the standards of performance applicable to new sources for hot forming—primary subcategory (Subpart M), the hot forming—section subcategory (Subpart N), the hot forming—flat subcategory (Subpart O), the pipe and tubes subcategory (Subpart P), the pickling—sulfuric acid—batch subcategory (Subpart Q), the pickling—hydrochloric acid—batch and continuous subcategory (Subpart R), the cold rolling subcategory (Subpart S), the hot coatings—galvanizing subcategory (Subpart T), the hot coatings—terne subcategory (Subpart U), the miscellaneous runoffs—storage piles, casting and slagging subcategory (Subpart V), the cooling water blowdown subcategory (Subpart W), the utility blowdown subcategory (Subpart X), the maintenance department wastes subcategory (Subpart Y), and the central treatment subcategory (Subpart Z), of the forming and finishing segment of the iron and steel manufacturing point source category.

Section 307(c) of the Act requires the Administrator to promulgate pretreatment standards for new sources at the same time that standards of performance for new sources are promulgated pursuant to section 306. §§ 420.136, 420.146, 420.156, 420.166, 420.176, 420.186, 420.196, 420.206, 420.216, 420.226, 420.236, 420.246; 420.256 and 420.266, proposed below, provide pretreatment standards for new sources within the hot forming—primary subcategory (Subpart M), the hot forming—section subcategory (Subpart N), the hot forming—flat subcategory (Subpart O), the pipe and tubes subcategory (Subpart P), the pickling—sulfuric acid—batch subcategory (Subpart Q), the pickling—hydrochloric acid—batch and continuous subcategory

(Subpart R), the cold rolling subcategory (Subpart S), the hot coatings—galvanizing subcategory (Subpart T), the hot coatings—terne subcategory (Subpart U), the miscellaneous runoffs—storage piles, casting and slagging subcategory (Subpart V), the cooling water blowdown subcategory (Subpart W), the utility blowdown subcategory (Subpart X), the maintenance department wastes subcategory (Subpart Y), and the central treatment subcategory (Subpart Z), of the forming and finishing segment of the iron and steel manufacturing point source category.

Section 304(c) of the Act requires the Administrator to issue to the States and appropriate water pollution control agencies information on the processes, procedures or operating methods which result in the elimination or reduction of the discharge of pollutants to implement standards of performance under section 306 of the Act. The report or "Development Document" referred to below provides, pursuant to section 304(c) of the Act, information on such processes, procedures or operating methods.

(b) Summary and Basis of Proposed Effluent Limitations Guidelines for Existing Sources and Standards of Performance and Pretreatment Standards for New Sources.

(1) *General methodology.* The effluent limitations, guidelines and standards of performance proposed herein were developed in the following manner. The point source category was first studied for the purpose of determining whether separate limitations and standards are appropriate for different segments within the category. This analysis included a determination of whether differences in raw material used, product produced, manufacturing process employed, age, size, waste water constituents and other factors require development of separate limitations and standards for different segments of the point source category. The raw waste characteristics for each such segment were then identified. This included an analysis of the source, flow and volume of water used in the process employed, the sources of waste and waste waters in the operation and the constituents of all waste water. The constituents of the waste waters which should be subject to effluent limitations and standards of performance were identified.

The control and treatment technologies existing within each segment were identified. This included an identification of each distinct control and treatment technology, including both in-plant and end-of-process technologies, which are existent or capable of being designed for each segment. It also included an identification of, in terms of the amount of constituents and the chemical, physical, and biological characteristics of pollutants, the effluent level resulting from the application of each of the technologies. The problems, limitations and reliability of each treatment and control technology were also identified. In addition, the nonwater quality environmental impact, such as the effects of the application of such technologies upon other pollution problems, including air, solid waste, noise and radiation were identified. The energy requirements of each control and treatment technology were determined as well as the cost of the application of such technologies.

The information, as outlined above, was then evaluated in order to determine what levels of technology constitute the "best practicable control technology currently available," "best available technology economically achievable" and the "best available demonstrated control technology, processes, operating methods, or other alternatives." In identifying such technologies, various factors were considered. These included the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application, the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, nonwater quality environmental impact (including energy requirements) and other factors.

Consideration has also been given to the solid waste aspects of water pollution controls. The processes for treating the waste waters from this industry produce considerable volumes of sludges. Much of this material is inert iron oxide which can be reused profitably. Other sludges not suitable for reuse must be disposed of to land fills. Being precipitates, they are by nature relatively insoluble substances.

Best practicable control technology and best available control technology as they are known today, require disposal of the pollutants removed from waste waters in this industry in the form of solid wastes and liquid concentrates. In most cases these are nonhazardous substances requiring only minimal custodial care. However, some constituents may be hazardous and may require special consideration. In order to ensure long term protection of the environment from these hazardous or harmful constituents, special consideration of disposal sites must be made. All landfill sites where such hazardous wastes are disposed should be selected so as to prevent horizontal and vertical migration of these contaminants to ground or surface waters. In cases where geologic conditions may not reasonably ensure this, adequate legal and mechanical precautions (e.g. impervious liners) should be taken to ensure long term protection to the environment from hazardous materials. Where appropriate, the location of solid hazardous materials disposal sites should be permanently recorded in the appropriate office of legal jurisdiction.

The data upon which the above analysis was performed included EPA permit applications, EPA sampling and inspections, consultant reports, literature sources, demonstration projects, and industry submissions.

The pretreatment standards proposed herein are intended to be complementary to the pretreatment standards proposed for existing sources under 40 CFR 128. The basis for such standards is set forth in the FEDERAL REGISTER of July 19, 1973, 38 FR 19236. The provisions of Part 128 are equally applicable to sources which would constitute "new sources," under section 306 if they were to discharge pollutants directly to navigable waters, except for § 128.133. That section provides a pretreatment standard for "Incompatible pollutants" which requires application of the "best practicable control technology currently available," subject to an adustment for amounts of pollutants removed by the publicly owned treatment works. Since the pretreatment standards proposed herein apply to new sources, §§ 420.136, 420.146, 420.156, 420.166, 420.176, 420.186, 420.196, 420.206, 420.216, 420.226, 420.236, 420.246, 420.256, and 420.266, below amend section 128.133 to specify the application of the standard of performance for new sources rather than the "best practicable" standard applicable to existing sources under sections 301 and 304(b) of the Act.

The operations relating to the tin and chrome coating of strip steel have not been included in this regulation because the Agency is required under Section 306 of the Act to promulgate, and has promulgated, effluent limitations and guidelines for the Electroplating Point Source Category (40 CFR 413). The treatment technology was discussed in the Contractors Draft Report and the costs have been included in the calculations of total water pollution control costs to the industry.

Consideration is being given to changing the units of some of the limitations. For the pickling subcategories kilograms of pollutant per kkg (lbs/1000 lbs) of steel product may be changed to kilograms of pollutant per kkg (lbs/1000 lbs) of acid purchased and regenerated.

For cold rolled or hot coated products the units of kilograms of pollutant per kkg (lbs/1000 lbs) of steel product may be changed to kilograms of pollutant per 1000 square meters (lbs per unit area in square yards) of product. The Agency will be acquiring additional data on which to evaluate these changes. Comments, data and recommendations from outside sources to assist us in this evaluation are solicited.

Further consideration will be given to comments received on any facet of these proposed regulations. The appropriateness or need for subcategorization by size or age of facility has been considered and is discussed in comments two and four. However, the Agency is particularly interested in receiving further comments, data, and recommendations that will provide a basis for further evaluation of this issue.

Energy consumption for the operation of water pollution control facilities has also been considered and is discussed in part iv and in comment fourteen. Comments, data, and recommendations that will provide a basis for further evaluation of this issue are also solicited.

(2) Summary of conclusions with respect to the hot forming—primary subcategory (Subpart M), the hot forming—section subcategory (Subpart N), the hot

forming—flat subcategory (Subpart O), the pipe and tubes subcategory (Subpart P), the pickling—sulfuric acid—batch subcategory (Subpart Q), the pickling—hydrochloric acid—batch and continuous subcategory (Subpart R), the cold rolling subcategory (Subpart S), the hot coatings—galvanizing subcategory (Subpart T), the hot coatings—terne subcategory (Subpart U), the miscellaneous runoffs—storage piles, casting and slagging subcategory (Subpart V), the cooling water blowdown subcategory (Subpart W), the utility blowdown subcategory (Subpart X), the maintenance department wastes subcategory (Subpart Y), and the central treatment subcategory (Subpart Z), of the forming and finishing segment of the iron and steel manufacturing point source category.

(i) *Subcategorization.* An evaluation of the forming and finishing operations was necessary to determine whether or not subcategorization would be required in order to prepare an effluent limitations guideline or guidelines which would be broadly applicable and yet representative and appropriate for the operations and conditions to be controlled.

With respect to identifying any relevant, discrete subcategories for the iron and steel industry, the following factors in addition to those listed under general methodology were considered in determining industry subcategories for the purpose of the application of effluent limitations guidelines and standards of performance; gas cleaning equipment; waste treatability; aqueous waste loads; and process water usage.

After considering all of these factors, it was concluded that the iron and steel industry is comprised of separate and distinct processes with enough variability in product and waste quantity or characteristics to require subcategorization. The individual processes, products, and the waste water constituents comprise the most significant factors in the subcategorization of this complex industry. The use of various gas cleaning methods can, under some conditions, increase the wastewater volume to be treated. Waste treatability in itself is of such magnitude that it is more reasonable to consider the waste treatment methods under the individual subcategories. Size and age of the plants has no direct bearing on the subcategorization. The processes and treatment systems within a subcategory are similar regardless of the age and size of the plant. In addition to the plant size, the geographical location of the plant along with the age of the plant and of the waste treatment plant were considered. It can be noted that neither the wastes nor the treatment will vary in respect to the age or size factor. Therefore, age and size in itself would not substantiate industry subcategorization along these lines.

The number and type of pollutant parameters of significance varies with the operation being conducted and the raw materials used. The waste volumes and waste loads also vary with the operation. In order to prepare effluent limitations that would adequately reflect these variations in significant parameters and waste volumes the industry was subcategorized primarily along operational lines, with permutations where necessary.

(1) *Subpart M—Hot Forming—Primary Subcategory.* The Hot Forming—Primary operations of the iron and steel industry serves as a separate subcategory for the purpose of establishing effluent limitations guidelines and standards of performance. It differs from other iron and steel industry subcategories with respect to raw material used, final products produced, wastewater constituents present, and waste treatment systems used. It also differs from other hot forming subcategories with respect to the surface areas of the product produced and its position in the sequence of hot forming operations applied to the product. The surface area of the product area being rolled affects the rate at which contact cooling and flush water must be applied, and thus the quantity and quality of the wastewater generated. The relatively poor surface condition of the product to be rolled during the primary hot forming step also affects the load of mill scale that will be generated when contact process water is applied. The surface condition of the product is often improved after the primary hot forming operation, usually by methods such as scarfing, shot-blasting, etc., so as to provide a better surface appearance in subsequent hot forming rolling operations.

(2) *Subpart N—Hot Forming—Section Subcategory.* The Hot Forming—Section operations of the iron and steel industry serves as a separate subcategory for the purpose of establishing effluent limitations guidelines and standards of performance. It differs from other iron and steel subcategories with respect to raw material used, final products produced, wastewater constituents, generated, and waste treatment systems used. It also differs from other hot forming subcategories with respect to the surface area of the product produced and its position in the sequence of hot forming operations applied to the product. The surface area of the product being rolled affects the rate at which contact cooling and flush water must be applied, and thus the quantity and quality of the wastewaters generated. The relatively good surface condition of the product to be rolled during the Hot Forming—Section step, compared to surface quality available during previous primary rolling steps, usually results in the generation of lesser quantities of mill scale than in primary rolling steps. The particle size, however, will be generally smaller, and more difficult to settle out than scale from previous steps.

(3) *Subpart O—Hot Forming—Flat Subcategory.* The Hot Forming—Flat operations of the iron and steel industry serves as a separate subcategory for the purpose of establishing effluent limitations guidelines and standards of performance. It differs from other iron and steel subcategories with respect to raw material used, final products produced, wastewater constituents generated, and waste treatment systems used. It also differs from other hot forming subcategories with respect to the surface area of the product produced and its position in the sequence of hot forming operations applied to the product. A further difference within the Hot Forming—Flat Subcategory itself reflects the variation in final product between steel plate with relatively thick cross-section and sheet and strip of much thinner gauge.

The surface area of the product being rolled affects the rate at which contact cooling and flush water must be applied, and thus the quantity and quality of the wastewaters generated. The relatively good surface condition of the product to be rolled during the Hot Forming—Flat step, compared to surface quality available during previous cooling steps, usually dictates the generation of lesser quantities of mill scale than in previous rolling steps. The particle size, however, will be considerably smaller than either of the other hot forming subcategories.

(4) *Subpart P—Pipe and Tubes Subcategory.* The Pipe and Tubes operations of the iron and steel industry serves as a separate subcategory for the purpose of establishing effluent limitations guidelines and standards of performance. It differs from other iron and steel subcategories with respect to raw material used, final products produced, wastewater constituents generated, and waste treatment systems used.

(5) *Subpart Q—Pickling—Sulfuric Acid—Batch Subcategory.* The Pickling—Sulfuric Acid—Batch operations of the iron and steel industry serves as a separate subcategory for the purpose of establishing effluent limitations guidelines and standards of performance. It differs from other iron and steel subcategories with respect to raw material used, final products produced, wastewater constituents generated, and waste treatment systems used. It also differs from the other pickling subcategory with respect to the type of acid used, process equipment employed, quantity and concentration of wastewaters generated, or wastewater treatment methods employed.

(6) *Subpart R—Pickling—Hydrochloric Acid—Batch and Continuous Subcategory.* The Pickling—Hydrochloric Acid—Batch and Continuous operations of the iron and steel industry serves as a separate subcategory for the purpose of establishing effluent limitations guidedifers from other iron and steel subcategories with respect to raw material used, final products produced, wastewater constituents generated, and waste treatment systems used. It also differs from the other pickling subcategory with respect to the type of acid used, process equipment employed, quantity and concentration of wastewaters generated, or wastewater treatment methods employed.

(7) *Subpart S—Cold Rolling—Subcategory.* The Cold Rolling—operations of the iron and steel industry serves as a separate subcategory for the purpose of establishing effluent limitations guidelines and standards of performance. It differs from other iron and steel subcategories with respect to raw material

used, final products produced, waste water constituents generated, and waste treatment systems used. This subcategory includes all cold rolling operations, wherever direct application, or total or partial recycle of rolling solutions is practiced.

(8) *Subpart T—Hot Coatings—Galvanizing Subcategory.* The Hot Coatings—Galvanizing operations of the iron and steel industry serves as a separate subcategory for the purpose of establishing effluent limitations guidelines and standards of performance. It differs from other iron and steel subcategories with respect to raw material used, final products produced, wastewater constituents generated, and waste treatment systems used.

It also differs from other hot coating subcategories with respect to the metal coating being applied and, therefore, in pollutant parameters to be controlled.

(9) *Subpart U—Hot Coatings—Terne Subcategory.* The Hot Coatings—Terne operations of the iron and steel industry serves as a separate subcategory for the purpose of establishing effluent limitations guidelines and standards of performance. It differs from other iron and steel subcategories with respect to raw material used, final products produced, wastewater constituents generated, and waste treatment systems used.

It also differs from other hot coating subcategories with respect to the metal coating being applied and, therefore, in the pollutant parameters to be controlled.

(10) *Subpart V—Miscellaneous Runoffs—Storage Piles, Casting, and Slagging Subcategory.* The miscellaneous runoffs from storage piles, casting and slagging operations in the iron and steel industry serves as a separate subcategory for the purpose of establishing effluent limitations guidelines and standards of performance.

These wastes are treated as a separate subcategory since they are generally related to geographic and housekeeping conditions within the plant and not to manufacturing process subcategories or production rates. Since waste volumes are a function of many factors, e.g., climatic conditions, physical layout and plant management attitude toward housekeeping, the waste volumes will be variable but treatable.

(11) *Subpart W—Cooling Water Blowdown Subcategory.* The cooling water blowdown operations of the iron and steel industry serves as a separate subcategory for the purpose of establishing effluent limitations guidelines and standards of performance.

Although cooling water blowdown from partially closed recirculating non-contact cooling systems can be common to many steel industry manufacturing subcategories, it is treated as a separate subcategory since the treatment chemicals added to the recirculating system to maintain proper conditions in the system, may also constitute an objectionable discharge in the blowdown stream. In addition, discharge cannot be directly related to a manufacturing process production rate, but must be related to the characteristics of the particular cooling system involved.

(12) *Subpart X—Utility Blowdown Subcategory.* The utility blowdown operations of the iron and steel industry serves as a separate subcategory for the purpose of establishing effluent limitations guidelines and standards of performance.

Although utility blowdown and water treatment wastes can be common to many, if not all, steel industry manufacturing subcategories, it is treated as a separate subcategory since the treatment processes and chemicals employed in the utility water system, when discharged, might constitute a potential pollutional discharge. In addition, the discharges cannot be directly related to a manufacturing process production rate, but must be related to the characteristics of the particular system involved.

(13) *Subpart Y—Maintenance Department Wastes Subcategory.* The maintenance department wastes segment of the iron and steel industry serves as a separate subcategory for the purpose of establishing effluent limitations guidelines and standards of performance.

Maintenance department wastes are indicative of a steel plant operation in general, and thus are not specific to individual steel industry manufacturing subcategories. In addition, the discharges cannot be directly related to manufacturing process production rates, but must be related to the type of maintenance activity in operation and general plant housekeeping conditions.

(14) *Subpart Z—Central Treatment Subcategory.* Existing facilities for central treatment of wastes from regulated (operational) sources (Subparts A through V) or from semi-regulated sources (Subparts W, X and Y) and from unregulated sources (cooling water, etc) within the Iron and Steel Industry serves as a separate subcategory for the purpose of establishing effluent limitations guidelines and standards of performance. This provides an alternative approach, usually involving a degree of pretreatment of certain pollutants in a segregated stream, followed by further treatment jointly with other wastewaters. Even though such central treatment constitutes a separate subcategory, discharges can be partially related to specific manufacturing processes. This subpart does not apply to facilities treating wastes from a combination of regulated sources or from a combination of regulated and semi-regulated sources. Effluents from these latter systems will be limited to the sum of the loads permitted by the limitations on the individual sources treated by the combined facility.

(ii) Pollutant parameters, waste sources, control and treatment technology, treatment practices, best practicable, best available, and new source treatment technology and costs for each subcategory established in the preceeding section.

(1) *Subpart M—Hot Forming—Primary Subcategory.* The known significant pollutants or constituents in the wastewaters resulting from the Hot Forming-Primary Subcategory include suspended solids and oil and grease.

Wastewaters from Hot Forming—Primary Subcategory operations result from washing scale from the surface of the steel with water and from the water used to transport the scale through the flume beneath the mill line. The effluents contain suspended particles from mill scale and oils and greases which originate in the hydraulic and lubricating systems.

Additional wastewaters can result from hot scarfing operations associated with the hot forming-primary operations. The sources of these wastewaters include the flush water used to flush the hot scale generated by the scarfer off the product, water used to spray and protect equipment in the vicinity of the scarfer from heat and flying scale particles, and water used in wet scrubbing systems to remove the fume and smoke generated in the scarfing operation. Additional wastewaters can result if noncontact hot mill and reheat furnace cooling water is mixed with the contact wastewaters. These noncontact water sources should be kept segregated to optimize treatment efficiencies and to minimize treatment costs and loads discharged.

The volume of liquid wastes generated by the hot forming-primary process will vary, depending upon the design of the hot rolling facilities, the presence of scarfing equipment, and the extent of water recirculation and reuse practiced. The five mills surveyed in this study, four of which were operating essentially on a once-through basis, had an average process water application rate of 2427 l/kkg (291 gal/1000 lbs), with an additional flow of 842 l/kkg (101 gal/1000 lbs) where hot scrafing is practiced.

The control and treatment technologies which are available are primarily end-of-process treatment and reuse techniques. Available treatment methods which can be added to the operating unit scale pit (settling unit) include oil skimming with manual or automatic removal equipment, clarification, chemical flocculation, high rate filtration, and recycle.

Various degrees of waste treatment are practiced throughout the Hot Forming-Primary Subcategory. All plants will have scale pits, more to recover mill scale for reuse and to prevent gross blockages of sewer lines than to provide pollution control. Therefore the primary scale pit is considered to be part of the operating unit and the raw waste effluent is considered to be the primary scale pit (without oil skimming) effluent. Most of these primary scale pits will have oil skimming baffles and manual oil removal equipment to provide for oil removal. This is the first step in pollution control and the only one so broadly applied as to constitute the reference level of control. Some plants will also provide for clarification of scale pit effluents and some of these use chemical flocculation to improve clarification. Additional oil collection and automatic removal equipment may be associated with the clarifier to provide for additional oil removal. A portion of

the clarifier effluent may be recycled for reuse, or the total effluent may be discharged to a receiving stream. A few plants will have high rate filters to treat either scale pit or clarifier effluents. Filter effluent may be discharged after once-through, although there is a trend towards recirculation and reuse of filter effluents with minor blowdowns to control dissolved solids in the system.

The anticipated removal of pollutant parameters for each successive level of treatment technology discussed above would be as follows:

Treatment model and technology	Cumulative percent reduction from raw waste load	
	TSS [1]	O&G [2]
(A) Oil baffle on the primary scale pit. Flow is once through (reference level)	17	25
(B) Add oil skimming and automatic removal to primary scale pit	30	65
(C) Add clarifier with vacuum filter on underflow	72	85
(D) Chemical addition to clarifier, recycle with limited blowdown	98.3	98.8

[1] TSS is total suspended solids.
[2] O&G is oil and grease.

The best practicable control technology currently available (BPCTCA) for the Hot Forming—Primary Subcategory of the iron and steel industry is considered to include automatic oil collection and removal equipment on the process scale pit, followed by clarification with vacuum filtration of the clarifier underflow. Treated wastewaters would then be discharged.

Use of this recommended technology would produce an effluent containing no more than 50 mg/l of TSS and 15 mg/l of O&G. The proposed effluent limitations (BPCTCA) are based upon a total discharge flow of 2500 l/kkg (300 gal./1000 lbs) of primary hot rolled product. If the process includes a hot scarfing operation an additional waste volume of 833 l/kkg (100 gal/1000 lb) of primary hot rolled product is provided for in the limitations.

The best available technology economically achievable (BATEA) should include all the steps established in the BPCTCA guideline and, in addition, chemical flocculation and recycle with limited blowdown. Application of this recommended technology (BATEA) would reduce concentrations of TSS to 25 mg/l and O&G to 10 mg/l. The proposed effluent limitations (BATEA) are based upon a total discharge flow of 417 l/kkg (50 gal/1000 lbs) of primary hot rolled product. No provisions are made for additional loads from scarfing operations at the BATEA level. The treated recycled waters are of good quality and may be reused in the process whether scarfing is practiced or not.

New source performance standards (NSPS) for the Hot Forming—Primary Subcategory are the same as the effluent limitations based on BATEA, as described above.

Estimated capital and operating costs for a typical hot forming—primary plant, producing 3628 kkg/day (4000 tons/day) of product, at increasing levels of technology are as follows:

Treatment model [1]	Incremental capital investment	Cumulative annual operating cost
	(1971 dollars)	
(A)	200,000	36,000
(B)	14,000	43,000
(C)	552,000	173,000
(D)	413,000	283,000

[1] Technology associated with each model is the same as in the preceding table.

(2) *Subpart N—Hot Forming—Section Subcategory.* The known significant pollutants or constituents in the wastewaters resulting from the Hot Forming—Section Subcategory include suspended solids and oil and grease.

Wastewaters from Hot Forming—Section Subcategory operations result from washing scale from the surface of the steel with water and from the water used to transport the scale through the flume beneath the mill line. The effluents contain suspended solids from mill scale and oils and greases which originate in the hydraulic and lubricating systems.

Additional wastewaters can result from hot scarfing operations associated with the hot forming-section operations. The sources of these wastewaters include the flush water used to flush the hot scale generated by the scarfer off the product, water used to spray and protect equipment in the vicinity of the scarfer from heat and flying scale particles, and water used in wet scrubbing systems to remove the fume and smoke generated in the scarfing operation. Additional wastewaters can result if noncontact hot mill and reheat furnace cooling water are mixed with the contact wastewaters. These noncontact water sources should be kept segregated to optimize treatment efficiencies and to minimize treatment costs and loads discharged.

The volume of liquid wastes generated by the hot forming—section process will vary, depending upon the particular design of the hot rolling facilities, the presence of scarfing equipment, and the extent of water recirculation and reuse practiced. The ten mills surveyed in this study had an average process water application rate of 26,670 l/kkg (3198 gal/1000 lbs) of product rolled.

The control and treatment technologies which are available are primarily end-of-process treatment and reuse techniques. A reference level of treatment which can be added to the operating unit scale pit (settling unit) would consist of underflow baffles with manual removal of the oil and grease collected. Advance levels of treatment can be obtained using oil skimming and automatic removal equipment on the scale pit, followed by clarification, chemical flocculation or high rate filtration, followed by recycle with blowdown or total recycle. A cooling tower is normally included in the recycle loop.

The range of treatment technology currently practiced in existing plants includes all the items discussed above. One plant surveyed in this subcategory, using a facility consisting of a scale pit, filter, recycle, and cooling tower, has been able to achieve no discharge of process wastewater pollutants to navigable waters for this subcategory.

The anticipated removal of pollutant parameters for each successive level of treatment technology discussed above would be as follows:

Treatment model and technology	Cumulative percent reduction from raw waste load	
	TSS	O&G
(A) Oil baffle on the primary scale pit. Flow is once-through (reference level)	17	25
(B) Add oil skimming and automatic removal to scale pit	30	65
(C) Add clarifier with vacuum filter on underflow	72	85
(D) Recycle scale pit effluent to scale flume as required, discharge clarifier effluent	87	93
(E) Chemical addition to clarifier, recycle of clarifier effluent to spray system via cooling tower, discharge minimum blowdown	99.7	99.8

The best practicable control technology currently available (BPCTCA) for the Hot Forming—Section Subcategory of the iron and steel industry should include automatic oil collection and removal equipment on the process scale pit, followed by clarification with vacuum filtration of the underflow. A portion of the primary scale pit effluent is recycled as required for use as scale flume flushing water, with the remainder passing through the clarifier prior to discharge.

Use of this recommended technology would produce an effluent containing no more than 50 mg/l of TSS and 15 mg/l O&G. The proposed effluent limitations (BPCTCA) are based upon a water application rate of 27,105 l/kkg (3250 gal/1000 lbs), recycle of 14,595 l/kkg (1750 gal/1000 lbs) of scale pit effluent back to the flume as scale flushing water, and a discharge flow after treatment of 12,500 l/kkg (1500 gal/1000 lbs) of hot rolled section product.

The best available technology economically achievable (BATEA) should include all the steps established in the BPCTCA guideline, and in addition, chemical flocculation and additional recycle of clarifier effluent to the process spray system via a cooling tower, with minimum blowdown.

Application of this recommended technology would produce an effluent containing no more than 25 mg/l of TSS and 10 mg/l of O&G.

The proposed BATEA effluent limitations are based upon a discharge flow of 626 l/kkg (75 gal/1000 lbs) of hot-rolled section product. No additional allowances for scarfing operations are provided for this subcategory. Relatively few processes utilize scarfing, and even where it is practiced, the additional loads are minor compared to the basic loads. Three of the plants surveyed attained the BATEA level of treatment, including one whose only "aqueous" discharge is the moisture content of sludges withdrawn

from the system. This high degree of treatment was considered to be a special case, difficult to justify for most plants in the Hot Forming—Section Subcategory at this time. However, all efforts to minimize the discharge flow rate should be take wherever practical.

New source performance standards (NSPS) for the Hot Forming—Section Subcategory are the same as the effluent limitations based upon BATEA, as described above.

Estimated capital and operating costs for a typical hot forming-section plant, producing 1180 kkg/day (1300 tons/day) of product, at increasing levels of technology are as follows:

Treatment model	Incremental capital investment	Cumulative annual operating cost
	(1972 dollars)	
(A)	216,000	39,000
(B)	14,000	51,000
(C)	909,000	249,000
(D)	620,000	371,000
(E)	2,042,000	820,000

(3) *Subpart O—Hot Forming—Flat Subcategory.* The known significant pollutants or constituents in the wastewaters resulting from the Hot Forming-Flat Subcategory include suspended solids and oil and grease.

Wastewaters from Hot Forming—Flat Subcategory operations result from washing scale from the surface of the steel with water and from the water used to transport the scale through the flume beneath the mill line. The effluents contain suspended solids from mill scale and oils and greases which originate in the hydraulic and lubricating systems.

The volume of liquid wastes generated by the Hot Forming—Flat Subcategory processes will vary depending upon the particular design of the hot rolling facilities, and the extent of water reuse and recirculation practiced. Water application rates for producing sheet and strip average 35–45% higher than corresponding rates for producing plate, so additional waste loads are generated. Noncontact water sources should be kept segregated to optimize treatment efficiencies and to minimize treatment costs and loads discharged. The five plants surveyed in this study had an average process water application rate of 23,100 l/kkg (2,770 gal/1000 lbs) for the plate mill and 32,380 l/kkg (3882 gal/1000 lbs) for sheet and strip mills.

The control and treatment technologies which are available are primarily end-of-process treatment and reuse techniques. A reference level of treatment which can be added to the operating unit scale pit (settling unit) would consist of underflow baffles with manual removal of the oil and grease. Advanced levels of treatment can be obtained using oil skimming and automatic removal equipment on the scale pit, followed by clarification, with chemical flocculation or high rate filtration, followed by recycle with blowdown or total recycle. A cooling tower is normally included in the recycle loop.

The range of treatment technology currently practiced in existing plants includes all the items discussed above. One plant surveyed in this subcategory, using a facility consisting of several scale pits, a high flow filtration unit, separate recycle loops for scale removal and strip cooling, with a cooling tower on the contact cooling water loop, and a clarifier with vacuum filtration of underflows for treatment of filter backwashes has been able to achieve no discharge of process wastewater pollutants to navigable waters for this subcategory.

The anticipated removal of pollutant parameters for each successive level of treatment technology discussed above would be as follows:

Treatment model and technology	Cumulative percent reduction from raw waste load	
	TSS	O&G
(A) Oil baffle added to the primary scale pit. Flow is once-through (reference level)	17	25
(B) Add oil skimming and automatic removal to primary scale pit	30	65
(C) Add clarifier with vacuum filter on underflow	72	85
(D) Recycle scale pit effluent to scale flume as required, discharge clarifier effluent	80	89
(E) Chemical addition to clarifier, recycle of clarifier effluent to spray system via cooling power, discharge minimum blowdown	99.7	99.8

The best practicable control technology currently available (BPCTCA) for the Hot Forming—Flat Subcategory of the iron and steel industry should include automatic oil collection and removal equipment on the process scale pit, followed by clarification with vacuum filtration of the underflow. A portion of the scale pit effluent should be recycled for use as scale flume flushing water, with the remainder passing through a clarifier prior to discharge.

Use of this recommended technology would produce an effluent containing no more than 50 mg/1 of TSS and 15 mg/1 of O&G. The proposed effluent limitations (BPCTCA) for plate mills are based upon a water application rate of 22,935 1/kkg (2750 gal/1000 lbs) recycle of 6255 1/kkg (750 gal/1000 lbs) of scale pit effluent back to the flume, and a discharge after treatment of 16,680 1/kkg (2000 gal/1000 lbs) of product.

The proposed effluent limitations (BPCTCA) for the hot strip and sheet mills are based upon a water application rate of 32,526 1/kkg (3900 gal/1000 lbs), recycle of 9591 1/kkg (1150 gal/1000 lbs) of scale pit effluent back to the flume and a discharge after treatment of 22,940 1/kkg (2750 gal/1000 lb) of hot rolled—flat sheet and strip produced.

The best available technology economically achievable (BATEA) should include all the steps established in the BPCTCA guideline, and in addition, chemical flocculation and additional recycle of clarifier effluent to the process spray system via a cooling tower, with minimum blowdown.

Application of this recommended technology (BATEA) would reduce concentrations of TSS to 25 mg/1 and O&G to 10 mg/1. The proposed effluent limitations are based upon a discharge flow of 626 1/kkg (75 gal./1000 lbs) of hot-rolled flat product. At this level of treatment, no additional allowance is provided for sheet and strip mills, since the discharged flow is less than three percent of the application rate in either case. Three of the plants surveyed attained this level of treatment, including one strip mill whose only "aqueous" discharge is the moisture content of sludges withdrawn from the system. This high degree of treatment was considered to be a special case, and at this time difficult to justify for most plants in the Hot Forming–Flat Subcategory. However, all efforts to minimize the discharge flow rate should be taken wherever practical.

New source performance standards (NSPS) for the Hot Forming—Flat Subcategory are the same as the effluent limitations based upon BATEA, as described above.

Estimated capital and operating costs for a typical hot forming—flat (plate) plant, producing 1814 kkg/day (2000 tons/day) of product, at increasing levels of technology are as follows:

Treatment model	Incremental capital investment	Cumulative annual operating cost
	(1972 dollars)	
(A)	267,000	48,000
(B)	21,000	64,000
(C)	1,167,000	315,000
(D)	497,000	411,000
(E)	2,866,000	1,033,000

Estimated capital and operating costs for a typical hot forming-flat (hot strip and sheet) plant, producing 3447 kkg/day (3800 tons/day) of product, at increasing levels of technology are as follows:

Treatment model	Incremental capital investment	Cumulative annual operating cost
	(1972 dollars)	
(A)	273,000	48,000
(B)	39,000	88,000
(C)	3,022,000	772,000
(D)	826,000	957,000
(E)	5,249,000	2,157,000

(4) *Subpart P—Pipe and Tubes Subcategory.* The known significant pollutants or constituents in the wastewaters resulting from the Pipe and Tubes Subcategory include suspended solids and oil and grease.

Wastewaters from Pipe and Tubes Subcategory operations result from contact water use in these processes as roll spray cooling waters and cooling bed or spray quench waters. These wastewaters are usually combined and discharged to flumes or trenches beneath the pipe mill and flushed into scale pits. These wastewaters contain suspended solids in the form of scale which is flushed off the pipe surface by the roll cooling spray waters and oils and greases which originate in the hydraulic and lubricating systems. Additional wastewaters can result if noncontact reheat furnace or equipment

cooling waters are mixed with the contact wastewaters. These noncontact water sources should be kept segregated to optimize treatment efficiencies and to minimize treatment costs and loads discharged.

The volume of liquid wastes generated by Pipe and Tubes Subcategory processes will vary depending upon the type of product being produced, the particular design of the facilities being used, and the extent of water reuse and recirculation practiced. Four of the six plants surveyed had waste loads comprised of from 30–70% noncontact cooling water with total waste loads ranging from 2,148 to 53,250 l/kkg (257 to 6385 gal/1000 lbs). The flow from one plant, including an unknown volume of noncontact cooling water, was five times the average flow from the other five mills (on a gallons per ton basis). The average water applied rate on the remaining five mills was 10,283 l/kkg (1233 gal/1000 lbs) but this also included some noncontact cooling water.

The control and treatment technologies used are primarily end-of-process treatment and reuse techniques. A reference level of treatment which can be added to the operating unit scale pit (settling unit) would consist of skimmers to automatically remove oil and grease continuously. Advanced levels of treatment can be obtained by segregating non-contact cooling water flows from process waste waters, adding a settling pond or clarifier for improved suspended solids removal, chemical flocculation, followed by recycle with minimum blowdown, or total recycle, adding evaporative cooling capacity as needed to control temperature.

The range of treatment technology currently practiced in existing plants includes all of the items discussed above. Of the six plants surveyed in this study, three have achieved a very low or no discharge of process wastewater pollutants to navigable waters condition through the use of tight recycle systems and large lagoons.

The anticipated removal of pollutant parameters for each successive level of treatment technology discussed above would be as follows:

Treatment model and technology	Cumulative percent reduction from raw waste load	
	TSS	O&G
(A) Oil baffle added to the primary scale pit. Flow is once-through (reference level)	17	25
(B) Add oil skimming and automatic removal to primary scale pit	30	65
(C) Add clarifier with vacuum filter on underflow	72	85
(D) Recycle scale pit effluent to scale flume as required; discharge clarifier effluent	86	93
(E) Chemical addition to clarifier; recycle of clarifier effluent to spray system via cooling tower discharge minimim blowdown	99.2	99.4

The best practicable control technology currently available (BPCTCA) for the Pipe and Tubes Subcategory of the iron and steel industry should include segregation of process wastewaters from non-contact cooling water, automatic oil collection and removal equipment, followed by clarification or sedimentation with vacuum filtration of the underflow. A portion of the scale pit effluent should be recycled for use as scale flume flushing water, with the remainder passing through a clarifier prior to discharge.

Use of this recommended technology would produce an effluent containing no more than 50 mg/l of TSS and 15 mg/l of O&G. The proposed effluent limitations (BPCTCA) are based on an applied rate of 40,425 l/kkg (1250 gal/1000 lbs), recycle of 5212 l/kkg (625 gal/1000 lbs) of scale pit effluent back to the flume, and a discharge after treatment of 5210 l/kkg (625 gal./1000 lbs) of product.

The best available technology economically achievable (BATEA) should include all the steps established in the BPCTCA guideline, and in addition, chemical flocculation and additional recycle of clarifier effluent to the process spray system via a cooling tower or evaporation pond, with minimum blowdown.

Application of this recommended technology (BATEA) would reduce concentrations of TSS to 25 mg/l and O&G to 10 mg/l. The proposed effluent limitations are based upon a discharge flow of 626 l/kkg (75 gal./1000 lbs) of pipe and tube produced. Three of the plants surveyed attain this level of treatment, and in fact, approach the condition of no discharge of process wastewater pollutants to navigable waters by utilizing evporation ponds with large surface areas. Since the availability of this technology is highly dependent on space and climate, no discharge of process wastewater pollutants to navigable waters has not been proposed as the recommended BATEA technology at this time. However, emphasis should be placed upon attaining the minimum possible discharge flow.

New source performance standards (NSPS) for the Pipe and Tubes Subcategory are the same as the effluent limitations based upon BATEA, as discussed above. Estimated capital and operating costs for a typical Pipe and Tubes Subcategory plant, producing 363 kkg/day (400 tons/day) of product, at increasing levels of technology are as follows:

Treatment model	Incremental capital investment	Cumulative annual operating cost
	(1971 dollars)	
(A)	183,000	34,000
(B)	11,000	37,000
(C)	331,000	114,000
(D)	92,000	135,000
(E)	511,000	249,000

(5) *Subpart Q—Pickling-Sulfuric Acid-Batch-Subcategory.* The known significant pollutants or constituents in the wastewaters resulting from batch sulfuric acid pickling operations include suspended solids, dissolved iron, sulfates and pH.

Wastewaters from Pickling-Sulfuric Acid-Batch Subcategory operations result from the necessary operating procedures during the pickling process. These wastewaters originate in either of two forms: as spent solutions of concentrated waste pickle liquor, containing iron and sulfuric acid at concentration up to 15 percent; or as dilute solutions resulting from dunk or spray rinsing of pickled product. Each operation contributes its own characteristic waste load to the total, and may be considered separately.

When the concentrated pickle liquor batch becomes too highly saturated with ferrous salts to use further for pickling the product, the spent concentrated pickle liquor is discharged for disposal and/or recovery, and a fresh batch is made up. These wastewaters contain excess sulfuric acid which produces a very low pH, as well as varying quantities of total, ferrous, and dissolved iron. Suspended matter is also present as supersaturated iron salts precipitate out, especially if the pH is elevated prior to disposal.

The volume of liquid wastes generated as spent pickle liquor will vary depending upon the product being pickled, the particular design of the pickling facility, and the extent of treatment and reuse practiced. The six mills surveyed in this study generated spent pickle liquor solutions at an average rate of 99 l/kkg (12 gal/1000 lbs) of steel pickled.

The dilute wastes produced by dunking or spray rinsing pickled product also contain acidity, iron and suspended matter but in much lower concentrations than those found in spent pickle liquor. Wastewater volumes attributable to rinsing operations vary widely depending upon the product being rinsed, the design of the facilities and the extent of conservation and reuse being practiced. The six mills surveyed generated pickling rinse waters at rates ranging from 67 l/kkg (4 gal/1000 lbs) to 3578 l/kkg (429 gal/1000 lbs). Deleting one high and one low flow line from the average as being abnormal extremes, the average of the remaining lines was 725 l/kkg (87 gal/1000 lbs) of pickled product.

The control and treatment technologies available are primarily end-of-process treatment techniques. A reference level of treatment for spent pickle liquor would consist of private contract hauling of all spent pickle liquor off the plant site for proper disposal and/or processing and recovery of useful materials. Rinse water flows are restricted to the minimum once-through rate possible, then are discharged without treatment. An alternate means of handling these wastes involves separate collection of spent pickle liquor and spent alkaline cleaning solutions. The equalized solutions are then blended to obtain partial neutralization of the spent pickle liquor. This technology can be improved further by providing neutralization with lime, followed by aeration to oxidize ferrous iron in the pickle liquor and thus provide better settling characteristics. Further improvement may include the use of polymers and ex-

tended settling periods to provide better effluent quality. The corresponding technology levels for treatment of the rinse waters involve lime neutralization, aeration, chemical flocculation and settling. A number of integrated plants have found it advantageous to blend pickling rinse wastewaters with cold rolling mill wastes, utilizing the acidity of the former to help break the oily emulsions of the latter. The iron flocs formed during lime neutralization also serve to absorb oily matter, producing lower O&G concentrations in the plant effluents. The highest level of technology available includes installation of an on-site sulfuric acid recovery system. Iron is recovered as ferrous sulfate heptahydrate and the unreacted sulfuric acid is recovered and recycled to the process. Rinse waters are reused as part of the makeup for fresh batches of pickling solution as required. Volumes can be reduced via cascade rinsing.

The range of treatment technology currently practiced in existing plants includes all of the items discussed above. Of the seven plants surveyed for this subcategory in this study, three have already achieved no discharge of process wastewater pollutants to navigable waters through the use of sulfuric acid recovery systems.

The anticipated removal of pollutant parameters for each successive level of treatment technology discussed above would be as follows:

Treatment model and technology	Cumulative percent reduction from raw waste load	
	TSS	Fe [1]
(A) Contract hauling (reference level)	0	0
(B) Collection and blending of acid and alkaline wastes; settling	2	80
(C) Lime addition, aeration, polymer addition and extended settling	65	99.9+
(D) Acid recovery system, zero aqueous discharge	100	100

[1] Dissolved iron.

The best practicable control technology currently available (BPCTCA) for the Pickling—Sulfuric Acid—Batch Subcategory of the iron and steel industry should include separate collection, equalization and blending of spent pickle liquors, spent alkaline cleaning wastes, and acidic rinsewaters, mixing, lime treatment, aeration, addition of polymer, and settling.

Use of this recommended technology would produce an effluent containing no more than 50 mg/1 of TSS and 1.0 mg/1 of dissolved iron. The proposed effluent limitations (PBCTCA) are based upon a discharge flow equivalent to 146 l/kkg (17.5 gal./1000 lbs) of product pickled for the spent liquor, (thus allowing for some volume increase due to the addition of the neutralizing slurry) plus an additional rinse water volume equivalent to 833 l/kkg (100 gal/1000 lbs).

The best availble technology economically achievable (BATEA) should include the installation of a sulfuric acid recovery system to recover unreacted acid from the spent sulfuric acid pickle liquors and return it for reuse. Rinse water volumes are minimized and then reused to make up fresh batches of pickle liquor.

Application of this recommended technology (BATEA) would produce a condition of no discharge of process wastewater pollutants to navigable waters. This guideline is justified since the technology to achieve it is available and three plants surveyed in this subcategory have already achieved this condition.

New source performance standards (NSPS) for the Pickling—Sulfuric Acid—Batch Subcategory are the same as the effluent limitations based upon BATEA, as discussed above.

Estimated capital and operating costs for a typical Pickling—Sulfuric Acid—Batch Subcategory plant, producing 227 kkg/day (250 tons/day) of product, at increasing levels of technology are as follows:

Treatment model	Incremental capital investment	Cumulative annual operating cost
	(1971 dollars)	
(A)	68,000	[5] 95,000
(B)	470,000	207,000
(C)	208,000	315,000
(D)	636,000	[6] 454,000

[5] This operating cost does not apply beyond level (A).
[6] Includes credits for acid and iron recovery, and elimination of chemical and sludge disposal costs.

(6) *Subpart R—Pickling—Hydrochloric Acid—Batch and Continuous Subcategory.* The known significant pollutants or constituents in the wastewaters resulting from the Pickling—Hydrochloric Acid—Batch and Continuous Subcategory include suspended solids, total iron, ferrous iron, dissolved iron, chlorides and pH.

Wastewaters from Pickling—Hydrochloric Acid—Batch and Continuous Subcategory operations result from the necessary operating procedures during the pickling process. These wastewaters originate in either of two forms: as spent solutions of concentrated waste pickle liquor, containing ferrous and ferric chlorides and hydrochloric acid at concentrations up to 15 percent; or as dilute solutions resulting from dunk or spray rinsing of pickled product. Each operation contributes its own characteristic waste load to the total, and may be considered separately. As the concentrated pickle liquor batch becomes too highly saturated with ferrous salts to use further for pickling the product, the spent concentrated pickle liquor is discharged for disposal and a fresh batch is made up. These wastewaters contain excess hydrochloric acid which produces a very low pH, as well as varying quantities of total, ferrous, and dissolved iron. Suspended matter is also present as supersaturated iron salts precipitate out, particularly if the pH is elevated prior to discharge.

The volume of liquid wastes generated by the Pickling—Hydrochloric Acid—Batch and continuous Subcategory processes will vary depending upon the particular product being pickled, the design of the pickling facility, the need for auxiliary related process equipment (e.g. fume hood scrubbers for process line vapors or regeneration plant air vents) and the extent of treatment and reuse practiced. The eight hydrochloric acid pickling operations surveyed in this study were generating spent pickle liquor at an average rate of 50 l/kkg (6.0 gal/1000 lbs) of steel pickled. In addition, the normal rinsing operations at these plants were generating a dilute acidic wastewater at an average rate of 300 l/kkg (96 gal/1000 lbs) of steel pickled. Plants using fume collectors with wet scrubbers over their process lines generated an average additional load of 150 l/kkg (18 gal/1000 lbs), while the three pickling operations which were practicing acid regeneration on-site also were producing wastewaters from the absorber vent scrubber at an average rate of 667 l/kkg (80 gal/1000 lbs).

The control and treatment technologies which are available are primarily end-of-process treatment techniques, although in-plant controls (e.g. countercurrent rinsing) are very useful in reducing wastewater volumes. A reference level of treatment for spent pickle liquor would consist of collection and deep well disposal, or hauling off-site by a private contractor to a disposal area for combined treatment with other wastes. A reference level of treatment for rinsewaters will generally consist of equalization and lime addition to a pH of 5 to 6 to eliminate free acidity, followed by discharge to a receiving stream of municipal sewage treatment plant. A higher level of technology for spent pickle liquor involves flash evaporation of acid in a roaster forming HCl vapor and iron oxide. The HCl vapor is sent to an absorber to regenerate hydrochloric acid. The iron oxide is removed from the bottom of the roaster for reuse. Gases leaving the absorber pass through a water scrubber prior to discharge to the atmosphere. The scrubber water is neutralized with lime before discharge, along with the dilute acidic rinsewaters. Aeration is provided for the combined effluents, along with a settling pond or thickener with vacuum filtration of underflows to drop out suspended solids. This technology can be improved even further with the addition of countercurrent rinses to reduce the volume of waste water generated. The highest form of technology available involves the use of rinse waters in a cascade countercurrent rinse pattern to concentrate them to the point where regeneration in an HCl recovery unit is practical.

The range of treatment technology currently practiced includes all the items discussed above except concentration and recovery of rinse waters in an HCl regeneration plant. However, one of the plants visited during this study is successfully concentrating rinse water for deep well disposal, while another plant utilizing acid regeneration of spent pickle liquor concentrates is currently making preparations to include rinse

waters in the recovery system following their concentration by cascade countercurrent rinsing. A number of integrated plants have found it advantageous to blend wastes from pickling operations with cold rolling mill wastes, utilizing the acidity of the former to help break the emulsified oils in the latter.

The anticipated removal of pollutant parameters for each successive level of treatment technology discussed above would be as follows:

Treatment model and technology		Cumulative percent reduction from raw waste load		
		TSS	O&G	Fe
(A) Contract hauling of spent liquor; lime neutralization of free acidity in rinse; discharge once-through (reference level).	Liquor	0	NA	0
	Rinse	[2] (−178)	[1] 25	95
(B-1) Regeneration of HCl; treatment of scrubbers and rinse-waters with aeration; lime neutralization with polymer addition; sedimentation via thicker with vacuum filtration of underflow.	Liquor	(−67)	NA	99.9+
	Rinse	44	[1] 50	99.9+
(B-2) Neutralization of spent liquor and rinse waters with aeration; lime treatment with polymer addition; sedimentation via thicker with vacuum filtration of underflow.	Liquor	75	NA	99.9+
	Rinse	44	[1] 50	99.9+
(C-1) Rinse water flow reduction via cascade rinse system, with partial recovery in acid regeneration plant; treat blow-down as in B-1.	Liquor	87.5	NA	99.9+
	Rinse	89	[1] 50	99.9+
(C-2) Rinse water flow reduction via cascade rinse system, with joint treatment of liquor and rinse water blow-down as in B-2.	Liquor	87.5	NA	99.9+
	Rinse	90	[1] 92	99.9+

[1] Applies only to joint treatment of rinses or scrubber effluents with cold rolling mill wastewaters.
[2] Negative values indicate an increase in the TSS concentrations relative to the raw waste quality as a result of the treatment, i.e., neutralization without clarification.

NOTE: NA indicates oil and grease limitations are not applicable.

The best practicable control technology currently available (BPCTCA) for the Pickling—Hydrochloric Acid—Batch and Continuous Subcategory of the iron and steel industry should include an on-site acid regeneration plant for recovery of hydrochloric acid and iron oxide, with aeration, lime neutralization and sedimentation in a thickener or pond with extended settling for all rinsewaters and HCl absorber wet scrubber wastes.

Use of this recommended technology would produce an effluent containing no more than 50 mg/l of TSS, 1.0 mg/l of dissolved iron and where joint treatment with cold rolling mill wastes is practiced, 10 mg/l of O & G. The proposed effluent limitations (BPCTCA) are based upon a total discharge flow equivalent to 833 l/kkg (100 gal./1000 lbs) of product pickled if an acid regeneration plant with a wet system for absorber vent scrubbing is part of the treatment used. If acid recovery is not practiced, the spent pickle liquor is neutralized with lime, aerated, and settled for an extended period to attain the required concentrations of 50 ppm TSS and 1.0 ppm dissolved iron. In this case, the BPCTCA limitations are based on a total discharge flow equivalent to 125 l/kkg (15 gal/1000 lbs) of steel pickled. For rinsewater flows, effluent limitations (BPCTCA) are based upon a total discharge flow equivalent to 833 l/kkg (100 gal/1000 lbs) of product pickled. If the pickling operation includes a wet fume hood scrubber system, an additional flow of 208.5 l/kkg (25 gal/1000 lbs) is allowed.

The best available technology economically achievable (BATEA) should include all the items in the BPCTCA effluent guideline and in addition the recycle of the scrubber water after treatment with minimal blowdown and with some of the scrubber effluent used as makeup to the absorber. Rinsewaters are further reduced by the installation of countercurrent rinse tanks to reduce the volume of waste waters generated, additional aeration and mixing, and extended settling before discharge.

Application of this recommended technology would produce an effluent containing no more than 25 ppm TSS and 1.0 ppm dissolved iron. The proposed effluent limitations are based upon a discharge flow from the treatment of spent pickle liquor of 125 l/kkg (15 gal/1000 lbs) of steel pickled. This guideline is justified since the technology to achieve it is available and one of the plants surveyed is in the process of modifying their recovery system to achieve this level of treatment. For rinsewater flows, the proposed effluent limitations are based upon a total discharge flow equivalent to 209 l/kkg (25 gal/1000 lbs) of product pickled. An additional load equivalent to a flow of 209 l/kkg (25 gal/1000 lbs) is allowed if the plant utilizes a wet fume hood scrubber system over the pickling tank.

New source performance standards (NSPS) for the Pickling—Hydrochloric Acid—Batch and Continuous Subcategory are the same as the effluent limitations for BATEA if the spent pickle liquor is neutralized. If acid regeneration is used the NSPS limitations are based on the BATEA treatment technology (and concentrations) and on the BPCTCA waste volume, i.e. recycle of the regeneration unit acid adsorber vent scrubber water is not a basis for the NSPS limitation. Thus with acid regeneration, the NSPS limitations are based on a flow of 833 l/kkg (100 gal/1000 lbs) as in BPCTCA limitations. The recommended recycle of scrubber water is BATEA technology which has not been practiced as yet on an actual operating acid recovery unit although one surveyed plant is modifying their system to accomplish this. For this reason, the NSPS limitations were based on once-through discharge of the treated scrubber waters. For rinsewater flows, and for fume hood scrubber flows, the NSPS limitations are the same as the BATEA limitations.

Estimated capital and operating costs for a typical Pickling—Hydrochloric Acid—Continuous Subcategory plant, producing 2720 kkg/day (3000 tons/day) of product, at increasing levels of technology are as follows:

Treatment model	Incremental capital investment	Cumulative annual operating cost
	(1971 dollars)	
(A-1) regeneration	775,000	[1] 1,210,000
(A-2) neutralization	752,000	[1] 1,211,000
(B-1) regeneration	9,604,000	[2] (−849,000)
(B-2) neutralization	875,000	723,000
(C-1) regeneration	300,000	[2] (−653,000)
(C-2) neutralization	236,000	947,000

[1] This operating cost does not apply beyond Level (A).
[2] Includes credits for acid and iron recovery. Numbers in parentheses represent annual operating gains, rather than costs.

(7) *Subpart S—Cold Rolling Subcategory.* The known significant pollutants or constituents in the wastewaters resulting from Cold Rolling Subcategory operations include suspended solids, and oil and grease.

Wastewaters from Cold Rolling Subcategory operations result when rolling solutions are dumped for treatment or disposal. These rolling solutions may consist of water, oil, oil-in-water emulsions, oil-water-detergent solutions or combinations of any of these, and are used to provide cooling and lubrication to the rolls and product. These wastewaters contain oil and grease in the form of water soluble oils used as an additive in the rolling solutions, as well as tramp oils and greases from the mill equipment lubricating systems. They also contain suspended solids in the form of general working area dirt and debris, which gets into the rolling solutions during normal operations. An additional source of wastewater can come from the cold mill maintenance and roll finishing shop. These wastewaters are of a miscellaneous type and contain general oily matter and debris normally associated with these types of operations.

The volume of liquid wastes generated by the Cold Rolling Subcategory processes will vary depending upon the particular product being rolled, the design of the mill facilities, and the extent of treatment and reuse practiced. Three coolant systems are in common use, namely recirculation on all stands; a combination of direct application on one or more stands with recirculation on the remaining stands; and direct application (once-through use) on all stands. Process wastewater flow rates vary with coolant system, but only over a narrow range within a given system.

Due to the increasing costs of high quality rolling oils and to the problems involved in treating large volumes of oily wastewater, the trend has been toward increased use of recirculation systems wherever possible. In those cases where at least one stand cannot be recirculated (usually due to customer requirements; control of dissolved solids; or the need to remove a previously applied oily coating which may be incompatible with the

rolling solutions), combination systems are most often used. The four cold rolling operations utilizing complete recirculation systems surveyed in this subcategory of the study had process waste discharge flows averaging 243 l/kkg (29 gal/1000 lbs) of steel rolled. Three of the four recirculation lines were discharging an average waste water flow of only 71 l/kkg (8.5 gal/1000 lbs), indicating very high degrees of reuse. Cold rolling mills utilizing a combination system generate significantly larger volumes of wastewater than the systems using recirculation on all stands. One plant surveyed consisted of three different cold rolling lines using various combinations of recirculation and direct application. The wastewater flow from the lines operating as combination operations averaged 1551 l/kkg (186 gal./1000 lbs) during the contractors plant visits.

Direct application of rolling solution at all stands generates the largest quantity of contaminated wastewater. Typical application rates for five mills using solutions on a once-through basis averaged 4320 l/kkg (518 gal/1000 lbs) of product rolled.

The available control and treatment technologies include in-plant control measures to reduce flows from the recirculating stands, if any, by limiting blowdowns to treatment, and end-of-process treatment techniques for those blowdowns and for the direct application stands. The reference level of technology includes the optimum degree of recirculation practical for the specific conditions enumerated above, plus treatment of blowdowns from the recirculation systems and from direct application stands using an oil separator, followed by discharge. This technology can be improved significantly by treating the total wastewaters via oil separation, equalization, chemical treatment, flocculation, air flotation, surface skimming, final pond settling, and then discharge.

The range of treatment technology currently practiced in existing plants includes the items discussed above. Also, a few existing plants have found it advantageous to combine waste discharges from cold rolling operations with acid pickling operation wastes, and treat these wastes in a single joint treatment system.

The anticipated removal of pollutant parameters for each successive level of treatment would be as follows:

Treatment model and model	Cumulative percent reduction from raw waste load		
	TSS	O&G	Fe[1]
(A) Recycle system on as many stands as practical, blowdown plus wastewaters from direct application stands to oil separator followed by stream discharge	21	23	90
(B) Add further treatment of wastewaters via equalization, chemical treatment, flocculation, air flotation, surface skimming, final pond settling and discharge	83	98	99.9+

[1] Only applies when cold rolling wastes are treated jointly with pickling wastes.

The best practicable control technology currently available (BPCTCA) for the Cold Rolling Subcategory of the iron and steel industry should include: (a) for mills with recirculation systems on all stands, reuse of rolling solutions with treatment of minimum blowdown via oil separation, equalization, chemical treatment, flocculation, air flotation, surface skimming and extended settling.

Use of this recommended technology would produce an effluent containing no more than 25 mg/l of TSS, 10 mg/l of O&G, and where joint treatment with wastes from pickling operations is practiced, 1.0 mg/l of dissolved iron. The proposed effluent limitations (BPCTCA) are based upon a total discharge flow equivalent to 104 l/kkg (12.5 gal./1000 lbs) of product rolled. (b) for mills with combination systems, the maximum degree of reuse practical, with treatment of the blowdown from the recirculation system and of wastewater from direct application stands via oil separation, equalization chemical treatment, flocculation, air flotation, surface skimming, and extended settling.

Use of this recommended technology would produce an effluent containing no more than 25 mg/l of TSS, 10 mg/l of O&G, and where joint treatment with wastes from pickling operations is practiced, 1.0 mg/l of dissolved iron. The proposed effluent limitations (BPCTCA) are based on a total discharge flow equivalent to 1668 l kkg (200 gal./1000 lbs) of product rolled, (c) for mills with direct application on all stands, treatment of rolling solutions via oil separation, equalization, chemical treatment, flocculation, air flotation, surface skimming and final pond settling.

Use of this recommended technology would produce an effluent containing no more than 25 mg/l of TSS, 10 mg/l of O&G, and, where joint treatment with wastes from pickling operations is practiced, 1.0 mg/l of dissolved iron. The proposed effluent limitations (BPCTCA) are based upon a total discharge flow equivalent to 4170 l/kkg (500 gal/1000 lbs) of product rolled.

The best available technology economically achievable (BATEA) is identical with that discussed under the BPCTCA guidelines above, and no changes or additional treatment steps are proposed.

New source performance standards (NSPS) for the Cold Rolling Subcategory are the same as the effluent limitations based upon BPCTCA and BATEA as discussed above.

Estimated capital and operating costs for typical Cold Rolling Subcategory plants, producing varying quantities of product (depending upon mode of operation), at increasing levels of technology are as follows:

Treatment model	Incremental capital investment	Cumulative annual operating cost
	(1971 dollars)	
(A) Recirculation	187,000	36,000
Combination	242,000	62,000
Direct application	270,000	71,000
(B) Recirculation	268,000	97,000
Combination	1,055,000	341,000
Direct application	1,083,000	364,000

NOTE: Costs are based upon typical production rates, as follows:
Recirculation, 2720 kkg/day (3,000 tons/day).
Combination, 1360 kkg/day (1,500 tons/day).
Direct application, 907 kkg/day (1,000 tons/day).

(8) *Subpart T—Hot Coatings-Galvanizing Subcategory.* The known significant pollutants or constituents in the wastewaters resulting from the Hot Coatings-Galvanizing Subcategory include suspended solids, oils and greases, zinc, chromium, and pH.

Wastewaters from Hot Coatings-Galvanizing Subcategory operations result from various cleaning, chemical treatment, and rinses applied to the product before or after coating, as well as batch discharges from the various solutions and baths associated with the coating operations. In addition, some plants utilize wet fume hood scrubbers to remove dust and fumes from the process areas. These wastewaters in general contain suspended solids in the form of scale particles, dirt, and debris from the working area. Galvanizing operations in particular contain oil and grease, zinc, and chromium from the coating and finishing operations. The pH from this process may fluctuate, depending upon the concentrations of acid or alkaline cleaning rinses present.

The volume of liquid wastes generated by the Hot Coatings-Galvanizing Subcategory processes will vary depending upon the particular product being coated, the type of flux used, the thickness of coating being applied, the particular design of the coating facility, the need for wet fume hood scrubbers, and the extent of treatment and reuse practiced. The three plants surveyed in this study had process wastewater flows averaging 2170 l/kkg (260 gal/1000 lbs) of product galvanized. An additional flow of 2500 l/kkg (300 gal/1000 lbs) was observed at plants with wet fume hood scrubbers.

The control and treatment technologies which are available are primarily end-of-process treatment techniques, with the exception of steps designed to limit water flows. A reference level of treatment would consist of control of wastewater volumes by providing drag-out recovery units, and special attention to maintenance of equipment designed to reduce loss of solutions. A higher level of treatment technology would include separate collection of alkaline and acidic wastewater solutions, with subsequent blending of predetermined flows to allow for precipitation of dissolved metals and a limited amount of settling. A further improvement to this technology would include providing hexavalent chrome reduction, neutralization, polymer addition

facilities, a settling basin, and continuous oil skimming equipment. An even higher level of treatment technology would include treatment of the blended wastewaters with lime or other alkali to the optimum pH for precipitating metal hydroxides, followed by solids removal via clarification with polymer addition, vacuum filtration of sludges, and continuous oil skimming of the clarifier effluent. Significant savings in chemical and equipment costs can be gained by modifying process steps to provide cascade rinsing of products, and recycling of fume hood scrubber waters.

The range of treatment technology practiced in existing plants includes all the items discussed above, except for the cascade rinsing and fume hood recycling systems. Both techniques exist in other iron and steel industry subcategories, and are suitable for use here.

The anticipated removal of pollutant parameters for each successive level of treatment technology discussed above would be as follows:

Treatment model and technology	Cumulative percent reduction from raw waste load				
	TSS	O&G	Zn [1]	Cr [2]	Cr+6 [3]
(A) Control waste water volume by dragout recovery, plus maintenance of equipment designed to minimize solution loss	33	33	33	33	33
(B) Separate collection of alkaline and acidic wastes with controlled blending, and settling	69	70	72	64	70
(C) Provide chrome reduction system, addition, flocculation, settling, and continuous oil skimming	79	80	97	86	97.9
(D) Use of cascade rinsing, and recycle of fume hood scrubber waters, treatment of blended wastewaters via lime to obtain optimum pH for metals precipitations, followed by clarification with polymer addition, vacuum filtration of underflows and continuous oil skimming	98	97	94.7	99.0	99.9+

[1] Total zinc.
[2] Total chromium.
[3] Hexavalent chromium.

The best practicable control technology currently available (BPCTCA) for the Hot Coatings—Galvanizing Subcategory of the iron and steel industry should include separate collection, equalization, blending, and mixing of acid and alkaline wastes, followed by polymer addition, 24-hour settling, and continuous oil skimming.

Use of this recommended technology for treating galvanizing wastewaters would produce an effluent containing no more than 50 mg/1 of TSS, 15 mg/1 of oil and grease, 5 mg/1 of zinc, 3 mg/1 of chromium, and 0.02 mg/1 of hexavalent chromium. The proposed effluent limitations (BPCTCA) are based upon a total discharge flow equivalent to 2500 1/kkg (300 gal/1000 lbs) of product coated. If the galvanizing operation includes a wet fume hood scrubber, an additional load is allowed from that source, equivalent to 2500 1/kkg (300 gal/1000 lbs) of product coated. The total discharge flow would then be 5000 1/kkg (600 gal./1000 lbs).

The best available technology economically achievable (BATEA) should include the provision of cascade rinsing and fume hood scrubber recycle systems; followed by treatment of the blended wastewaters via lime or other alkali addition to the optimum pH for metals precipitation, followed by clarification with polymer addition, vacuum filtration of clarifier sludges, and continuous oil skimming.

Application of this recommended technology would produce an effluent containing no more than 25 mg/1 of TSS, 10 mg/1 of oil and grease, 2 mg/1 of zinc, 0.2 mg/1 of chromium, and 0.02 mg/1 of hexavalent chromium. The proposed effluent limitations (BATEA) are based upon a countercurrent rinsewater system discharge flow equivalent to 834 1/kkg (50 gal/1000 lbs) of product coated. An additional allowance for loads in the blowdown from a wet fume hood scrubber recycle system is provided, equivalent to 626 1/kkg (75 gal/1000 lbs) of product coated.

New source performance standards (NSPS) for the Hot Coatings—Galvanizing Subcategory are the same as the effluent limitations based on BPCTCA, as discussed above. As yet, neither recommended BATEA flow reduction technique has been applied to full scale galvanizing operations, although they are used successfully in pickling operations and in gas scrubbing systems in iron and steel furnace operations. However, all parts of the end-of-process treatment technologies are currently in use at existing plants in this subcategory, therefore BATEA concentration limits were used to establish loads, even though BPCTCA flows had to be used.

Estimated capital and operating costs for a typical Hot Coatings—Galvanizing Subcategory plant, producing 635 kkg/day (700 tons/day) of product, at increasing levels of technology are as follows:

Treatment model	Incremental capital investment	Cumulative annual operating cost
	(1971 dollars)	
(A)	0	0
(B)	585,000	112,000
(C)	226,000	173,000
(D)	193,000	211,000

(9) *Subpart U—Hot Coatings—Terne Subcategory.* The known significant pollutants or constituents in the wastewaters resulting from the Hot Coatings—Terne Subcategory include suspended solids, oils and greases, lead, tin, and pH.

Wastewaters from Hot Coatings—Terne Subcategory operations result from various cleaning or coating rinses applied to the product before or after coating. These wastewaters in general contain suspended solids in the form of scale particles, dirt, and debris from the working area, and lead and tin from the terne coating operation itself. The pH from this process may fluctuate, depending upon the concentrations of acid or alkaline cleaning rinses present. In addition, some plants utilize wet fume hood scrubbers to remove dust and fumes from the process areas.

The volume of liquid wastes generated by the Hot Coatings—Terne Subcategory processes will vary depending upon the particular product being coated, the thickness of coating being applied, the particular design of the coating facility, the need for wet fume hood scrubbing, and the extent of treatment and reuse practiced. The two plants surveyed in this study had process rinsewater flows averaging 3140 1/kkg (376 gal/1000 lbs.) of coated product. An additional flow of 5950 1/kkg (713 gal/1000 lbs) was observed from the fume hood scrubbers of the one plant so equipped. This latter plant was operating with excessive flow rates on both the hoods and the rinsewater system.

The control and treatment technologies which are available are primarily end-of-process treatment techniques, with the exception of steps designed to limit water flows. A reference level of treatment would consist of control of wastewater volumes by providing dragout recovery units, and special attention to maintenance of equipment designed to reduce loss of solutions. A higher level of treatment technology would include separate collection of alkaline and acidic wastewater solutions, with subsequent blending of predetermined flows to allow for precipitation of dissolved metals and a limited amount of settling. A further improvement to this technology would include provisions for polymer addition facilities, a settling basin, and continuous oil skimming equipment. An even higher level of treatment technology would include treatment of the blended wastewaters with lime or other alkali to the optimum pH for precipitating metal hydroxides, followed by solids removal via clarification with polymer addition, vacuum filtration of sludges, and continuous oil skimming of the clarifier effluent. Significant savings in chemical and equipment costs can be gained by modifying process steps to provide for cascade rinsing of products and by recycling the fume hood scrubber waters.

The plants visited were not using any of the available treatment techniques, but never-the-less were achieving the proposed BPCTCA effluent loads by careful management of maintenance and operating procedures to minimize waste load generation.

The anticipated removal of pollutant parameters for each successive level of treatment technology discussed above would be as follows:

Treatment model and technology	Cumulative percent reduction from raw waste load			
	TSS	O&G	Sn [1]	Pb [2]
(A) Control wastewater volume by dragout recovery, plus maintenance of equipment designed to minimize solution loss	33	33	33	33
(B) Separate collection of alkaline and acidic wastes with controlled blending and settling to allow for precipitation of heavy metals	69	70	67	53
(C) Provide polymer addition flocculation, settling, and continuous oil skimming	79	80	83	79
(D) Use of cascade rinsing, and recycle of fume hood scrubber waters, treatment of blended wastewaters via alkali addition to obtain optimum pH for metals precipitation, clarification, polymer addition, vacuum filtration of underflows, and continuous oil skimming	98	97	90	98

[1] Total tin.
[2] Total lead.

The best practicable control technology currently available (BPCTCA) for the Hot Coatings—Terne Subcategory of the iron and steel industry should include separate collection, equalization, blending, and mixing of acid and alkaline wastes, followed by polymer addition, 24-hour settling, and continuous oil skimming.

Use of this recommended technology for treating terne coating wastewaters would produce an effluent containing no more than 50 mg/l of TSS, 15 mg/l of oil and grease, 5 mg/l of tin, and 0.5 mg/l of lead. The proposed effluent limitations (BPCTCA) are based upon a total discharge flow equivalent to 2500 l/kkg (300 gal/1000 lbs) of product coated. If the terne coating operation includes a wet fume hood scrubber, an additional load is allowed from that source. This additional load is equivalent to the treated effluent load from an additional effluent volume of 2500 l/kkg (300 gal/1000 lbs) of product. The total discharge flow would then be 5000 l/kkg (600 gal/1000 lbs).

The best available technology economically achievable (BATEA) should include the provision of cascade rinsing and fume hood scrubber recycle systems, followed by treatment of the blended wastewaters via lime or other alkali addition to the optimum pH for metals precipitation, followed by clarification with polymer addition, vacuum filtration of clarifier sludges, and continuous oil skimming.

Application of this recommended technology would produce an effluent containing no more than 25 mg/l of TSS, 10 mg/l of oil nad grease, 2 mg/l of tin, and 0.25 mg/l of lead. The proposed effluent limitations (BATEA) are based upon a rinsewater discharge flow equivalent to 834 l/kkg (100 gal/1000 lbs) of product coated. An additional allowance for loads from a wet fume hood scrubber is provided, equivalent to 626 l/kkg (75 gal/1000 lbs) product coated.

New source performance standards (NSPS) for the Hot Coatings—Terne Subcategory are the same as the effluent limitations based on BPCTCA, as discussed above. As yet, neither recommended BATEA flow reduction technique has been applied to full scale galvanizing operations, although they are used successfully in pickling operations and in gas scrubbing systems in iron and steel furnace operations. However, all parts of the end-of-process treatment technologies are currently in use at existing plants in this subcategory, therefore BATEA concentration limits were used to establish loads, even though BPCTCA flows had to be used.

Estimated capital and operating costs for a typical Hot Coatings—Terne Subcategory plant, producing 635 kkg/day (700 tons/day) of product, at increasing levels of technology are as follows:

Treatment model	Incremental capital investment	Cumulative annual operating cost
	(1971 dollars)	
(A)	0	0
(B)	585,000	112,000
(C)	208,000	165,000
(D)	193,000	203,000

(10) Subpart V—Miscellaneous Runoffs—Storage Piles, Casting and Slagging Subcategory. The regulation for this subpart is divided into section, a., applicable to coal, stone, and ore pile runoff's and section, b., applicable to casting and slagging operations.

a. Coal, Stone, and Ore Pile Runoffs. These three miscellaneous runoffs are discussed together since at a minimum, all three runoffs require the same general type of treatment; namely collection, sedimentation, and pH adjustment. This is not meant to imply that these runoffs should necessarily be collected and treated together, although that possibility need not be specifically excluded either. Nor should this analysis necessarily be construed to indicate that the above treatment is all that is needed in every case. For coal pile runoffs in particular, other undesirable contaminants may be present due to their presence in the coal. The likelihood of this occurring would be heavily dependent on the area where the coal is mined and the particular mineral makeup of the soil in that area.

Thus, based upon a minimum treatment concept, the environmental impact of these miscellaneous runoffs could generally be controlled via: 1. Collection and 2. Treatment. Collection can consist of two parts; i.e., Installation of an impervious liner (vinyl, rubber, concrete etc.) at the base of the pile to prevent subsurface runoff and/or Installation of a perimeter collection system to route subsurface runoff stopped by the liner and surface runoff from the pile surface to a specific point for further handling. Liner technology has been used to a minor extent in steam electric power plants to minimize their coal pile subsurface runoffs. Generally, a 6 in. layer of sand or earth must be placed between the liner and the stockpiled material to prevent damage to the liner. The use of this technology may also, in many cases, be limited to installation where a stockpile has yet to be placed. At many locations, because of the logistics of unloading, storage, and end use facilities, it may not be possible to easily change the location of a stockpile or move it temporarily while a liner is being installed. Generally, however, the use of a liner would eliminate subsurface discharges from these stockpiles. Perimeter collection systems may route the collected wastewaters to a holding facility, probably a pond, for treatment, storage before treatment, or pretreatment and storage before further treatment. Treatment of the wastewaters collected in the holding facility can then be carried out at that point or the waste can be transported for treatment at another point, or both. Whatever method is employed, the general treatment provided should consist of, at a minimum, sedimentation and pH adjustment where required.

Because of the high capital investment that may be required by these proposed regulations for the operating functions under this segment, these regulations propose no limitations for the BPCTCA level for this subcategory. Thus all capital investment and operating costs for miscellaneous runoff control for this subpart can be deferred until such time as the BATEA and NSPS limits will apply.

The best available technology is considered to be perimeter collection, storage, chemical flocculation, neutralization and sedimentation. Use of liners or other means to preclude subsurface drainage may be required depending on the geological formation specific for the site chosen, but has not been included as BATEA technology to be required in all installations.

Based upon the rationale and justification used to set suspended solids and pH limits at the BATEA level for the other industry subcategories covered by this segment and the above discussion, limitations are proposed as follows: a suspended solids limit of 25 mg/l and a pH range of 6.0–9.0. Concentration limits on specific pollutants present in the wastewater which are due to leaching from the stockpile must be set on an individual basis if appropriate.

New source performance standards (NSPS) should include all parts of the BATEA limits and technology, and in addition, should include provisions to prevent subsurface drainage since the required collection and treatment systems can be installed before the storage piles are actually formed thus making subsurface drainage prevention less expensive to apply.

The installation costs of the BATEA system described above for a typical coal, stone, and ore pile associated with a 5000 ton per day ironmaking facility is estimated to cost $600,000, $364,000, and $463,000 respectively. This includes costs for the collection and holding system, pumps, and a clarifier with associated acid or alkaline and polymer chemical feed systems.

The installation costs of the NSPS collection and treatment systems described above for a typical coal, stone, and ore pile associated with a 5,000 ton per day ironmaking facility could cost $2,100,000, $559,000, and $975,000, respectively. This includes costs for the impervious (vinyl) liner, collection and holding system, pumps, and a clarifier with associated acid or alkaline and polymer chemical feed systems. Systems with concrete liners were found to be much more expensive.

The criteria and assumptions used to provide the basis for sizing and costing these facilities include:

	Coal	Stone	Ore
Raw material usage, pound/ton of iron	2,860	1,000	4,000
Storage capacity, days	90	180	180
Bulk density, pound/feet³	50	155	250
Stockpile height, feet	25	40	40
Maximum mean 24 hour rainfall, inches	2.5	2.5	2.5
Runoff coefficient	0.90	0.90	0.90

The stockpile size and surface area is calculated from the raw material usage, storage capacity, bulk density, and stockpile height parameters. The rainfall value chosen represents the greatest mean maximum 24 hour rainfall generally experienced in the western, north central, and northeastern part of the United States. (Source: The 1970 National Atlas of the United States.) The runoff coefficient of 0.90 was assumed since the proposed subsurface and surface runoff collection systems should collect all rainfall except that accounted for by evaporation.

It should be particularly obvious that the system costs based upon the above set of criteria and assumptions represent only one specific case of the probable cost of such a system. A great variety of alternatives in size and cost exist for this basic treatment concept and must be determined and applied on a site-by-site basis. The particular system described above, although not rigorous for all applications, does provide a reasonable cost estimate for the particular set of criteria and assumptions used.

The basic concept of collection and storage is justifiable in every application. Even though logistics and economics may preclude the application of provisions for impervious sealing of the stockpile base for existing piles, there should generally be no reason not to practice perimeter collection of a large part of the runoff. Once collected, at least minimal treatment for suspended solids and pH should be applied, with additional treatment applied under BATEA wherever site or area specific pollutants appear in excessive concentrations in the runoff. The treatment of these specific pollutants, where they are identical to critical parameters identified in this proposed regulation, should follow the treatment and control technology and effluent guidelines established for these parameters in other subcategories. In other cases, treatment and control technology and limits will have to be formulated and applied on a case-by-case basis.

Since it is not possible to present a uniform set of parameters on which to design, size, and cost these systems, some discussion of the variables involved and their impact on the completed system is in order. They can be described as follows: (Variable No. 1) Stockpile Surface Area. This, of course, depends heavily upon the capacity of the ironmaking facility, its production rate, the number of days stockpiled inventory, the height of the pile, and the amount of sinter charge employed. Although coal is converted to coke before charging to the blast furnace, the coal supply will generally keep pace with blast furnace production since coke produced is generally used immediately in the blast furnace. (Variable No. 2) Rainfall. Rainfall intensity, frequency, and duration can vary significantly from area to area in this country. In certain areas, the use of mean maximum 24 hour rainfall to estimate the load on the system may be sufficient. However, in other areas, the use of figures for the 2 year, 5 year, 10 year, etc., 24 hour storms may be more appropriate. In other areas, where definite wet seasons occur, the system design may have to be based upon maximum consecutive days of rainfall in the area. Each case will depend on weather conditions specific to the area and will have to be determined on that basis. (Variable No. 3) Runoff coefficiencies. Again, case-by-case estimates may be needed. Runoff coefficients are generally average numbers reflecting runoff throughout the storm cycle. During the peak of an intensive, long duration rainfall, the coefficient may approach 100%. However, during brief rains, at the start of rainfall, and after rainfall has ended, these coefficients may be considerably lower. The coefficient in all cases will require conservative estimation to avoid underdesign of the system. (Variable No. 4) Treatment Alternatives. As mentioned previously, the basic treatment system will require sedimentation and pH adjustment with more specific treatment processes employed under BATEA where additional constituents appear. However, this does not preclude the possibility of using treatment facilities associated with other subcategory facilities in the mill. With the right combination of rainfall load and storage capacity, flow may be effectively metered to allow such a possibility.

In addition, in some areas of the country where evaporation exceeds rainfall, it may be possible to collect and store the runoff during wet periods and later spray evaporate runoff during dry periods and thus achieve no discharge of process wastewater pollutants to navigable waters.

Another factor that may affect the size of treatment facilities may be land area available for storage of runoff. Where land is at a premium, pond area will have to be minimized and treatment capacity maximized. Where land availability is not restrictive, the opposite may be true. In all cases sound engineering design and/or judgment must be used in the development of the type of storage collection and treatment facility needed in any specific location.

(b) Casting and Slagging Runoffs. Casting operations employ minimal amounts of water for mold spray cooling. Water usage is so minimal that there is rarely any runoff from the area proper. In addition, any excess spray water would generally contain only suspended matter in the form of larger scale particles which would settle in the immediate spray area. Any runoff that might exist at a specific site due to excessive spray water usage could best be resolved by tightening up on spray water usage.

Based upon the minimal water use requirements for ingot mold spray cooling operations, and the fact that current industry practice controls this usage to a point where no overland runoff normally exists, these proposed regulations specify the BPCTA effluent guidelines for discharges from ingot casting operations as no discharge of process (i.e. contact) waste water pollutants to navigable waters. The additional costs associated with achieving these levels are zero since they represent current general practice. The BATEA and New source performance standards (NSPS) should be the same as the BPCTCA guidelines.

Furthermore, there are seldom any overland discharges from the slag quenching operations within a steel mill. The majority of the quench water is evaporated during quenching. The remainder permeates through to the base of the quench pit, where, upon removal of the quenched slag, it sits in a pool until evaporated by the next hot slag charge.

Thus, the effluent limitations proposed for slag quenching are the same as those proposed for casting. The technology used to achieve these standards will employ the current grading practice generally used to prevent overland runoffs and the control of water application rates to equal the evaporation rate.

(11) *Subpart W—Cooling Water Blowdown Subcategory.* The use of a recirculating noncontact cooling water system in steelmaking or finishing processes provides a method for significantly reducing aqueous thermal discharges from the plant site. These recirculating systems are usually part of an evaporative cooling system which provides for maximum heat rejection to the surrounding air. These recirculating systems are usually associated with newer or refurbished older mills.

Because these systems generally utilize evaporative cooling to regenerate the water for reuse, a certain amount of blowdown from the system is required to maintain stable operating conditions. This blowdown, in certain instances, may itself be a potential pollutional discharge.

The volume of these blowdown wastewaters may vary significantly, depending upon the size of the recirculating system and the design and operating characteristics of the evaporative cooling system.

The quantities of blowdown discharges are frequently not directly related to plant production and therefore we have chosen not to propose an allowable magnitude for these discharges on an industrywide basis. Instead we have proposed only concentration limitations on the significant pollutants likely to be present in a cooling system blowdown. The waste volume and effluent load can thus be whatever the operating conditions dictate.

The potential pollutants in these discharges generally come from those additives that are used to inhibit corrosion in the recirculating system. Of primary concern are those plants that use hexavalent chromium-zinc inhibitor systems. This treatment provides the greatest corrosion protection but, unfortunately, also the greatest pollution potential.

Another possible contaminant of importance could be suspended matter in the recirculation system. This contaminant can be introduced into the cooling system either through the makeup water supply or by the scrubbing of airborne contaminants from the air passing through the evaporative cooling system. Although the potential deleterious effect of this contaminant in the recirculating water system can be controlled through the use of dispersants, it still may constitute a potential pollutant in the blowdown stream.

It is recommended that, where appropriate and possible, the blowdowns from cooling systems be collected and commined with other process wastes which require removal of similar pollutant parameters.

Where this is not possible, it is recommended that separate treatment facilities for these wastes be provided to treat them before discharge. The technology exists and has been utilized in achieving the effluent limitations for other subcategories in this study to remove these contaminants before discharge. Hexavalent and total chrome can be removed via acidification, reduction to the trivalent state with a strong reducing agent, and precipitation with lime. The lime precipitation step will also precipitate zinc, if present, from the wastewater. In addition, the lime precipitation, along with the possible use of a flocculant possibility in conjunction with an anionic or cationic polymer, would remove the bulk of suspended matter from the solution.

Based upon the effluent levels achievable through application of this technology and with the addition of chemical flocculation being the only difference between the BATEA and the BPCTCA treatment models, the limitations for these wastes are proposed as follows:

	TSS	Cr	Cr+6 ppm	Zn	P [1]	pH
BPCTCA	50	3.0	0.02	5.0	8	6.0-9.0
BATEA	25	0.1	.02	2.0	8	6.0-9.0
[1] Total phosphorus.	25	0.2	.....	2.0		

New source performance standards (NSPS) for the Cooling Water Blowdown Subcategory are the same as the effluent limitations based upon BATEA, as discussed above.

(12) Subpart X—Utility Blowdown Subcategory. In the steel mill, those areas where water is treated and prepared for use in the plant, or where steam or electricity are generated are generally referred to as the utilities areas.

During the preparation of raw water for use, wastes are generated which constitute a wastewater discharge from the utility area. These wastes include clarifier blowdown, sand and carbon filter backwash, spent softener and demineralizer regenerants, and steam system blowdown.

The quantity of wastes generated from utilities areas in general is not a predictable value. The quantity of wastes is site specific and depends upon the particular utility operations in service, the size of these operations, and the quality of the raw intake water to be treated and used. Because the magnitude of the wastes are so dependent upon the above factors the volume of these wastes are frequently not related to plant production and therefore we have chosen to propose concentration limits rather than unit load limits for these discharges.

The overall quality of utility area discharges is also quite variable, again because of the above mentioned factors, and thus is not predictable on an overall basis. However, from a basic knowledge of the utility area operations, it is known that possible contaminants in these wastes include suspended solids, alkalinity, and acidity.

Technology already exists to insure that these contaminants are reduced to acceptable concentrations before discharge. This technology of neutralization chemical flocculation, and sedimentation has been applied to other subcategories of steel industry processes to produce acceptable effluent concentrations.

Based upon the technology available to treat these wastes (neutralization and sedimentation for BPCTCA and in addition chemical flocculation for BATEA) and the application of this technology to this subcategory, the limitations proposed for utility area waste water discharges are as follows:

	TSS ppm	pH
BPCTCA	50	6.0-9.0
BATEA	25	6.0-9.0

New source performance standards (NSPS) for the Utility Blowdown-Water Treatment Subcategory are the same as the effluent limitations based upon BATEA, as discussed above.

(13) *Subpart Y—Maintenance Department Wastes Subcategory.* The volumes of liquid wastes resulting from maintenance operations are not a function of the tons of steel produced and the type of product. Therefore, we have proposed only concentration limitations rather than waste load limitations for maintenance generated wastes. As a general rule, the normal daily maintenance wastewater discharge will have little overall effect on the quality of the plant effluent. However, problems can arise when even small volumes of oil are improperly disposed of in the plant sewer system.

Efforts to achieve the proposed concentration limitations should stress the reduction and control of these wastes by establishing good housekeeping procedures, central collecting stations for small volumes of oily wastes, and the education of employees on the proper methods of disposal of these wastes.

It is further recommended that where it is not practical or feasible to combine maintenance department wastes with a process waste treatment system, a separate treatment facility should be installed for the maintenance wastewaters. For the reasons indicated in the preceding paragraphs, the proposed discharge limitations are based on concentration only. The technology upon which the BPCTCA limitations are based includes sedimentation and automatic oil skimming and removal. The addition of chemical flocculation will permit the system to achieve the BATEA limitations.

Based on the above, these limitations are proposed:

	TSS	O&G ppm	pH
BPCTCA	50	15	6-9
BATEA	25	10	6-9

New source performance standards (NSPS) for the Maintenance Department Wastes Subcategory are the same as the effluent limitations based upon BATEA, as discussed above.

(14) *Subpart Z—Central Treatment Subcategory.* The known significant pollutants or constituents in the wastewaters resulting from the Central Treatment Subcategory may include those parameters present in any of the steel industry subcategories for which regulations have been written. Wastewaters from the Central Treatment Subcategory result from treating wastewaters from regulated or semi-regulated sources with wastewaters from unregulated sources.

The volume of liquid wastes generated by the Central Treatment Subcategory will vary depending upon the wastewater sources and the extent of water recirculation and reuse practiced.

The control and treatment technologies which are available are primarily end-of-process treatment and reuse techniques.

Various degrees of waste treatment are practiced throughout the Central Treatment Subcategory varying with the operations and sources served by the control technology currently available (BPCTCA) for the Central Treatment Subcategory are those BPCTCA recommended within the regulated subcategories and technology capable of producing a discharge to meet concentration limits as prescribed on those semi-regulated or non-regulated subcategories.

The best available technology economically achievable (BATEA) for the Cen-

tral Treatment Subcategory are those BATEA measures recommended within the regulated subcategory and the technologies capable of producing a discharge to meet concentration limits as prescribed on those semi-regulated or non-regulated subcategories.

New source performance standards (NSPS) for the Central Treatment Subcategory are not applicable since Subpart Z applies only to existing facilities. Thus, in the future, the unregulated sources must be segregated and excluded from treatment facilities for treating either the regulated or semi-regulated sources.

(iii) Cost estimates for control of waste water pollutants.

The regulations proposed herein apply to the process waste water effluents of the forming and finishing operations, to miscellaneous runoffs from storage piles and from casting and slagging operations, to cooling water system and utility blowdowns, and to maintenance department wastes. The need for thermal discharge limitations is almost entirely a matter of water quality and hence so site specific that the Agency has determined that thermal limitations should not be a part of these technology oriented industry-wide effluent limitations at this time and hence have not been included in them.

The capital investment required to comply with the regulations proposed herein (primarily for the forming and finishing segment) and in the electroplating regulation (40 CFR 413 for the cold coating operations) is estimated to be $1.87 billion (August 1971 dollars). Of this amount $0.92 billion would be required to achieve the BPCTCA limitations proposed for 1977 (as modified herein) and $0.95 billion would be required to achieve the BATEA limitations proposed for 1983. These requirements would be in addition to that which the industry had already invested in water pollution controls for this segment of the industry.

The capital investment required to achieve water pollution control regulations for both segments of the industry, i.e., both those proposed herein for the forming and finishing segment and the regulations promulgated on June 28, 1974 for the steel making segment, is estimated to be $2.14 billion (in August 1972 dollars). Of this amount $1.07 billion would be required to achieve the BPCTCA limitations for 1977 and $1.08 billion would be required to achieve the BATEA limitations for 1983. These requirements would be in addition to that which the industry had already invested in water pollution controls.

The annual operating costs (including capital use costs and amortization) to achieve the regulations proposed herein for the forming and finishing segment are estimated to be $144.1 million (in August 1971 dollars) to achieve the BPCTCA limitations for 1977 and an additional $181.1 million to achieve the BATEA limitations proposed for 1983. This would be in addition to or in place of that which was being spent for water pollution controls and waste hauling on these operations.

The annual operating costs (including capital amortization) to achieve the proposed or promulgated regulations for water pollution controls for both the steel making and the forming and finishing segments are estimated to be $184.0 million (in August 1971 dollars) to achieve the BATEA limitations for 1977 and an additional $223.7 million to achieve the BATEA limitations for 1983. This would be in addition to that which was being spent for water pollution controls.

(iv) Energy requirements and non-water quality environmental impacts. Consideration has been given to the non-water quality aspects of water pollution control. The increased use of recycle systems has the potential for increasing the loss of volatiles to the atmosphere. Recycle systems are so effective in reducing waste water volumes and hence waste loads to and from treatment systems and in reducing the size and cost of treatment systems that a tradeoff must be accepted. Recycle systems requiring the use of cooling towers will contribute significantly to reductions of effluent loads while contributing only minimally to air pollution problems since the pollutant parameters in this segment are almost entirely nonvolatile materials.

The effect of water pollution control measures on energy requirements has also been determined. The additional electrical energy required to operate water pollution control facilities for the processes covered to achieve both the BPCTCA (1977) and the BATEA (1983) effluent limitations proposed herein amounts to approximately five percent of the electrical energy used by the steel industry in 1973 but it will be an insignificant percentage of the total energy consumption of the industry. These calculations are based on the treatment model energy requirements listed in Section VIII of the Draft Development Document and on data from the AISI statistical report for 1972.

(v) Economic impact analysis. A study of the economic impact of these proposed regulations is under way and will be reported separately in the near future as a separate report entitled "Economic Analysis of Proposed Effluent Guidelines, Iron and Steel Industry."

The report entitled "Development Document for Advanced Notice of Proposed Rule Making for Effluent Limitations Guidelines and New Source Performance Standards for the Forming and Finishing Segment of the Iron and Steel Manufacturing Point Source Category" details the analysis undertaken in support of the regulation being proposed herein and is available for inspection in the EPA Information Center, Room 227, West Tower, Waterside Mall, Washington, D.C., at all EPA regional offices, and at State water pollution control offices. A copy of this document is being sent to persons or institutions affected by the proposed regulation, or who have placed themselves on a mailing list for this purpose (see EPA's Advance Notice of Public Review Procedures, 38 FR 21202, August 6, 1973). An additional limited number of copies of these reports are available. Persons wishing to obtain a copy may write the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Ms. Ruth Brown.

On June 14, 1973, the Agency published procedures designed to insure that, when certain major standards, regulations, and guidelines are proposed, an explanation of their basis, purpose and environmental effects is made available to the public (38 FR 15653). The procedures are applicable to major standards, regulations and guidelines which are proposed on or after December 31, 1973, and which prescribe national standards of environmental quality or require national emission, effluent or performance standards and limitations.

The Agency determined to implement these procedures in order to insure that the public was apprised of the environmental effects of its major standards setting actions and was provided with detailed background information to assist it in commenting on the merits of a proposed action. In brief, the procedures call for the Agency to make public the information available to it delineating the major nonenvironmental factors affecting the decision, and to explain the viable options available to it and the reasons for the option selected.

The procedures contemplate publication of this information in the FEDERAL REGISTER, where this is practicable. They provide, however, that where, because of the length of these materials, such publication is impracticable, the material may be made available in an alternate format.

The report entitled "Development Document for Advance Notice of Proposed Rule Making for Effluent Limitations Guidelines and New Source Performance Standards for the Forming and Finishing Segment of the Iron and Steel Manufacturing Point Source Category" contains information available to the Agency concerning the major environmental effects of the regulation proposed below, including:

(1) the pollutants presently discharged into the Nation's waterways by manufacturers of iron and steel and the degree of pollution reduction obtainable from implementation of the proposed guidelines and standards (see particularly Sections IV, V, VI, IX, X, and XI):

(2) the anticipated effects of the proposed regulation on other aspects of the environment including air, solid waste disposal and land use, and noise (see particularly section VIII); and

(3) options available to the Agency in developing the proposed regulatory system and the reasons for its selecting the particular levels of effluent reduction which are proposed (see particularly sections VI, VII, and VIII).

The Development Document describes, in Section VIII, the cost and energy con-

sumption implications of the proposed regulations.

The two reports described above in the aggregate exceed 900 pages in length and contain a substantial number of charts, diagrams, and tables. It is clearly impracticable to publish the material contained in these documents in the FEDERAL REGISTER. To the extent possible, significant aspects of the material have been presented in summary form in foregoing portions of this preamble. Additional discussion is contained in the following analysis of comments received and the Agency's response to them. As has been indicated, both documents are or will be available for inspection at the Agency's Washington, D.C. and regional offices and at State water pollution control agency offices. Copies of each have been distributed to persons and institutions affected by the proposed regulations or who have placed themselves on a mailing list for this purpose. Finally, so long as the supply remains available, additional copies may be obtained from the Agency as described above.

When this regulation is promulgated, revised copies of the Development Document will be available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Copies of the Economic Analysis will be available through the National Technical Information Service, Springfield, Virginia, 22151.

(c) Summary of public participation. Prior to this publication, the agencies and groups listed below were consulted and given an opportunity to participate in the development of effluent limitations, guidelines and standards proposed for the forming and finishing segment of the iron and steel manufacturing point source category. All participating agencies have been informed of project developments. An initial draft of the Development Document was sent to all participants and comments were solicited on that report. The following are the principal agencies and groups consulted: (1) Effluent Standards and Water Quality Information Advisory Committee (established under section 515 of the Act); (2) all State and U.S. Territory Pollution Control Agencies; (3) Ohio River Valley Sanitation Commission; (4) New England Interstate Water Pollution Control Commission; (5) Delaware River Basin Commission; (6) Conservation Foundation; (7) Environmental Defense Fund, Inc.; (8) Natural Resources Defense Council; (9) Water Pollution Control Federation; (10) National Wildlife Federation; (11) The American Society of Civil Engineers; (12) The American Society of Mechanical Engineers; (13) U.S. Department of Commerce; (14) U.S. Department of the Interior; (15) Water Resources Council; (16) U.S. Department of Housing and Urban Development; (17) Federal Energy Office; (18) Federal Power Commission; (19) National Commission on Water Quality; (20) Business Men for the Public Interest; and (21) The American Iron and Steel Institute.

The following responded with comments: American Iron and Steel Institute; Walker Wire and Steel Company; U.S. Department of Commerce; Delaware River Basin Commission; California Water Resources Control Board; Michigan Department of Natural Resources; New York Division of Pure Waters; Wisconsin Department of Natural Resources; Illinois Environmental Protection Agency; and the Delaware Department of Natural Resources and Environmental Control.

The primary issues raised in the development of the proposed effluent limitations guidelines and standards of performance and the treatment of these issues herein are as follows:

(1) Comments have been received to the effect that the effluent limitations guidelines should specify the net loads to be discharged rather than absolute loads.

The effluent limitations have generally been developed on a gross or absolute basis. However, the Agency recognizes that in certain instances pollutants will be present in navigable waters which supply a plant's intake water in significant concentrations which may not be removed to the levels specified in the guidelines by the application of treatment technology contemplated by BPCTCA.

A revision of the NPDES regulations relative to the "net" versus "gross" issue has been proposed (39 FR 37215; Oct. 18, 1974) to provide the flexibility which some commenters have indicated they believe is required.

(2) One commenter stated that it is not explained how the data presented demonstrates that the factors of age and size have been considered and further states that the commenter believes that the Agency is erroneous in concluding that these factors do not require subcategorization on this basis.

The Agency has subdivided the finishing and forming segment primarily along operational lines because the waste water volumes and pollutant parameters vary with the type of operation being conducted. In addition, the processes reflect the age of the technology employed.

The treatment technology to be applied is primarily a function of the pollutants present and hence is a function of the type of operation conducted. The type of pollutants present is not a function of the age or size of the operating facility. Land availability for application of the treatment technology is not a function of size or age since many new as well as old mills are limited on the area available for installation of treatment facilities and vice versa. The same can be said with respect to size. Many of the older mills have better treatment than some of the newer ones and vice versa. The treatment technologies proposed do not require large land areas and in addition alternatives are available to those facilities which do have a land availability problem.

The limitations are primarily a function of the kinds of pollutants present, the unit volume of wastes that must be discharged, and the capabilities of the applicable treatment technology. All of these factors relate to the type of operation conducted and not to the size or age of the facility.

(3) One commenter inferred that waste water recycle is an "in-process" control and as such cannot be defined as BPCTCA unless it is normal practice in the industry.

In-process controls are changes in the operating process itself such that a substitution of one process for another will alter, reduce, or eliminate the raw waste loads produced, or render them less objectionable, or more amenable to treatment. In-process controls, which are in use by the average of the best facilities, as well as end-of-pipe treatment, can be used as the basis for establishing the BPCTCA limitations.

However, recycle is not an "in-process" control in this context in that it is the addition of facilities, usually at the outlet of a once through treatment facility, which permits the effluent to be recycled back to a scrubber system for example, and does not require a change in the process or the scrubber system itself.

(4) One commenter has claimed that the proposed guidelines will result in the loss of 12,000 jobs from the steel employment in the Mahoning River Valley region. Furthermore, the commenter asserts that "there is ample justification for adding to the guidelines, a subcategory based on the age of the facility."

The Agency has analyzed subcategorization on the basis of age per se and has concluded that such subcategorization is not appropriate (see comment #2).

The Agency intends to secure and evaluate additional information on possible economic impacts in this region and would consider revision of the regulations if the information appears to warrant this action.

(5) One comment was received to the effect that ranges of numbers (limitations) should be specified rather than specific limitations.

The Agency considers that the limitations already represent ranges, taking into account differences in processes used and other factors. Subcategorization has been used to take these factors into account with different limitations for each subcategory. Within subcategories, exceptions to the limitations have been provided where appropriate, thus constituting a range. Each numerical limitation represents a maximum value over a given period of time. This, in effect, represents a range from zero up to the specific limitation.

(6) One commenter stated generally, and with regard to individual subcategories, that the Agency had failed to specify factors to be taken into account by the permitting authority in establishing effluent limitations for individual permits, and that the Agency had erroneously established national applicable effluent limitations.

Section 304(b)(1)(B) of the Act provides for "guidelines" to implement the uniform national standards of section

301(b)(1)(A). Thus, Congress recognized that some flexibility was necessary in order to take into account the complexity of the industrial world with respect to the practicability of pollution control technology. In conformity with the Congressional intent and in recognition of the possible failure of these regulations to account for all factors bearing on the practicability of control technology, it was concluded that some provision was needed to authorize flexibility in the strict application of the limitations contained in the regulation where required by special circumstances applicable to individual dischargers. Accordingly, a provision allowing flexibility in the application of the limitations representing best practicable control technology currently available has been added to each subpart, to account for special circumstances that may not have been adequately accounted for when these regulations were developed.

(7) One commenter suggested that since new source performance standards are not specifically required by an outstanding court order concerning the effluent limitations guidelines, regulations for new sources for this industry should be dropped until a later time.

Section 306(b)(1)(B) of the Act provides for establishment of standards of performance for new sources within specified time frames. It is the opinion of the Agency that sufficient information is available on which to base a definition of best available demonstrated technology for new sources. Moreover, effluent limitations for new sources for some subcategories have been changed as a result of a reassessment of technologies with regard to adequacy of demonstration and availability to new sources for application in the immediate future.

(8) One commenter also expressed concern about the Agency's concentration on exemplary plants, questioning the representativeness of the plants studied, as well as the application of transfer technologies.

In establishing subcategories and setting effluent limitations the Agency specified the factors to be considered, such as type of operation and nature of pollutants discharged, and considered how these factors would be applied in identifying the amount of pollutant reduction attainable by particular subcategories of the industry. The resulting limitations identify specifically the amount of pollutant reduction attainable, in accordance with the provision of section 304(b)(1)(A). The Act did not intend that factors should be described generally and then applied on a case by case basis to specific plants. Such an interpretation would be contrary to the intention of Congress that national standards be established.

The determination of what constitutes "best practicable" technology for many industries involves, at first, a general review of the industry to determine the best technologies being practiced in the industry. Then, after closer review and investigation of these technologies, the "best practicable" technology is assessed as the average of the best, though not necessarily the best technology, after taking into account information relating to other factors spelled out in the Act.

In those industries where present treatment is uniformly inadequate, a higher degree of treatment than is presently practiced may be required based on a comparison with existing treatment for similar wastes in other industries or other subcategories of the same industry. Factors for determining the "best available" technology are similar except that rather than assessing the average of the best, the focus would be on the very best technology currently in use or demonstrably achievable.

Under this analysis of the statutory standard, it is the opinion of the Agency that it is not necessary that "best practicable" technology be currently in use as a single treatment. As applied to this industry, the methodology employed resulted in sufficient data to support the resulting limitations, and is completely consistent with the statutory requirements.

(9) The comment has been made that these limitations require individual waste treatment facilities at each operating unit and prohibit the use of central waste treatment facilities which are more economical to construct and to operate.

Central treatment facilities typically provide for equalization, neutralization, solids removal, and sludge dewatering. Other pollutants requiring removal are usually more efficiently and economically controlled or recovered by a pretreatment step applied to the segregated stream. These proposed regulations have been constructed so as to permit a discharger to apply either approach.

(10) The industry association continues to contend that there is a significant disparity between the costs as reported by the industry study contractor and the costs (total installation costs including "site specific" costs) which the companies will incur for the installation of the water pollution control facilities required to meet the proposed effluent limitations.

The industry association in its critique of the Contractors Draft Report provided their evaluation of the cost data. In so doing the association added in "site specific" costs equal to 100 percent of the facility costs. The most accurate way to determine the water pollution control facility costs and the site specific costs would be to calculate these costs for each operation at each of the many mills and plants. Such a determination is far beyond the scope of this effort and thus a method approximating these costs was developed. The contractor was conservative in estimating both the treatment facilities required to achieve the effluent quality and the cost of these facilities. This is borne out by the data submitted by the companies during the field study. An analysis of the cost data submitted by the companies, relative to the plants visited which were meeting the proposed guidelines (Forming and Finishing Segment), shows that these plants on the average experienced total installation costs (Facility costs plus site-specific costs) and annual operating costs less than the facility costs alone (i.e., not including site specific costs) or the operating costs as estimated by the study contractor. For this analysis actual costs reported were adjusted to August 1971 dollars to be consistent with the costs basis used by the study contractor. An adjustment was made also to achieve consistency in the production capacity of the actual facility and the typical facility for which the treatment models were costed out.

Thus, while we recognize that there are "site-specific" costs to be incurred, and that in some instances these costs may be significant; We believe the data from actual installations meeting the proposed guidelines shows that "on-the-average" the contractors cost estimates are sufficient to cover the costs that will be incurred.

(11) Many comments were received to the effect that the (contractors) recommended limitations are less stringent than those of some states or other regulatory agency or less restrictive than the water quality requirements.

The proposed regulations are intended to be applied industry wide in conjunction with water quality requirements; any given discharge permit being based on the more restrictive of the two. The proposed regulations are intended to reflect the effluent quality that can be achieved by the application of the best practicable control technology currently available by July 1, 1977 and the best available technology economically achievable by July 1, 1983. These are minimum standards to be met in all cases but do not preclude more restrictive standards being applied by other regulatory agencies.

(12) The industry association presented data to support their contentions that certain of the contractors recommendations were too restrictive.

In several instances changes were made which should eliminate these points as a source of contention. A major difference still exists, however, relative to the unit effluent volumes used as a basis for the limitations for the Hot Forming—Primary subcategory. The industry association recommended limitations based on a flow of 2380 gallons per ton and submitted data on eleven mills in support of this recommendation. This recommendation did not reflect merely an average based on a larger data base, but rather, it was based on a group that omitted all of the better plants. The lowest water use rate reported in the group of eleven plants was 50% higher that the highest water use rate reported among the plants visited. This example should serve to illustrate why some of the comments received, and particularly the additional data submitted, may appear to have been ignored. The regulation proposed herein for this segment is based on the field data which supports a flow of 600 gallons per ton for this subcategory with an added effluent volume of 200 gallons per ton allowed for those mills equipped with hot scarfing units.

(13) The use of 7 percent as a basis for capital use costs has been challenged as being unreasonably low.

Even though interest rates have just passed through a peak period it is interesting to note that some capital has continued to be available at less than 8% for industrial revenue bonds. But more significally the rates prevailing over the next eight years will determine what actual capital use charges are incurred. While we cannot predict what these rates will be, we can take note of the fact that interest rates are now dropping. Of greatest significance however is the fact that the annual capital charge is a combination of depreciation charges and interest charges. Any adjustment of these annual capital charges to reflect higher interest rates should also be accompanied by an adjustment to reflect a more realistic depreciation period than the ten year period used for the sake of uniformity as a basis for the calculations. Since most water pollution control facilities have a much longer life than ten years, any reasonable adjustments in these bases will tend, not to increase, but to decrease these annual cost figures.

(14) Comments were received to the effect that limitations based on hydrochloric acid regeneration do not adequately take into account the magnitude of the current energy shortage or the costs relative to the benefits.

The Agency is proposing limitations which can be achieved either by neutralization or by acid regeneration. While these regulations specify only the allowable unit load discharge and not the treatment technology, the limitations are based on what the Agency believes to be a feasible method of achievement. In this subcategory the Agency has selected acid regeneration as the preferred pollution control technique and has based their treatment model on this technology and has developed the costs accordingly. This does not preclude the use of neutralization or any other technology which will meet the allowable unit effluent loads specified.

(15) One comment was received pointing out that the contractor had neglected to include deep well injection as an alternate method of controlling the discharge of concentrated waste pickle liquors.

It is anticipated that in the very near future subsurface injections as a means of disposal of selected wastes will be regulated by an appropriate E.P.A. permit program. Generally it is not considered as a suitable alternative to adequate treatment and/or recovery and reuse.

Interested persons may participate in this advance rulemaking by submitting written comments in triplicate to the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Ms. Ruth Brown. Comments on all aspects of the proposed regulation are solicited. In the event comments are in the nature of criticisms as to the adequacy of data which are available, or which may be relied upon by the Agency, comments should identify and, if possible, provide any additional data which may be available and should indicate why such data are essential to the development of the regulations. In the event comments address the approach taken by the Agency in establishing an effluent limitations guideline or standard of performance, EPA solicits suggestions as to what alternative approach should be taken and why and how this alternative better satisfies the detailed requirements of sections 301, 304(b), 306 and 307 of the Act.

A copy of all public comments will be available for inspection and copying at the EPA Information Center, Room 227, West Tower, Waterside Mall, 401 M Street, SW, Washington D.C. A copy of preliminary draft contractor reports, the Development Document and economic study referred to above, and certain supplementary materials supporting the study of the industry concerned will also be maintained at this location for public review and copying. The EPA information regulation, 40 CFR Part 2, provides that a reasonable fee may be charged for copying.

All comments received on or before September 22, 1975, will be considered. Steps previously taken by the Environmental Protection Agency to facilitate public response within this time period are outlined in the advance notice concerning public review procedures published on August 6, 1973 (38 FR 21202).

Date: August 6, 1975.

JAMES L. AGEE,
Assistant Administrator,
Water and Hazardous Materials.

PART 420—IRON AND STEEL MANUFACTURING POINT SOURCE CATEGORY

Subpart M—Hot Forming—Primary Subcategory

Sec.

420.131 Applicability; description of the hot forming—primary category.
420.131 Specialized definitions.
420.132 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
420.133 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
420.134 Reserved.
420.135 Standards of performance for new sources.
420.136 Pretreatment standards for new sources.

Subpart N—Hot Forming—Section Subcategory

420.140 Applicability; description of the hot forming—section subcategory.
420.141 Specialized definitions.
420.142 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
420.143 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
420.144 Reserved.
420.145 Standards of performance for new sources.
420.146 Pretreatment standards for new sources.

Subpart O—Hot Forming—Flat Subcategory

420.150 Applicability; description of the hot forming—flat subcategory.
420.151 Specialized definitions.
420.152 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
420.153 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
420.154 Reserved.
420.155 Standards of performance for new sources.
420.156 Pretreatment standards for new sources.

Subpart P—Pipe and Tube Subcategory

420.160 Applicability; description of the pipe and tube subcategory.
420.161 Specialized definitions.
420.162 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
420.163 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
420.164 Reserved.
420.165 Standards of performance for new sources.
420.166 Pretreatment standards for new sources.

Subpart Q—Pickling—Sulfuric Acid—Batch Subcategory

420.170 Applicability; description of the pickling sulfuric acid—batch subcategory.
420.171 Specialized definitions.
420.172 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
420.173 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
420.174 Reserved.
420.175 Standards of performance for new sources.
420.176 Pretreatment standards for new sources.

Subpart R—Pickling—Hydrochloric Acid—Batch and Continuous Subcategory

420.180 Applicability; description of the pickling—hydrochloric acid—batch and continuous subcategory.
420.181 Specialized definitions.
420.182 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
420.183 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Sec.
420.184 Reserved.
420.185 Standards of performance for new sources.
420.186 Pretreatment standards for new sources.

Subpart S—Cold Rolling Subcategory

420.190 Applicability; description of the cold rolling subcategory.
420.191 Specialized definitions.
420.192 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
420.193 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
420.194 Reserved.
420.195 Standards of performance for new sources.
420.196 Pretreatment standards for new sources.

Subpart T—Hot Coating—Galvanizing Subcategory

420.200 Applicability; description of the hot coating—galvanizing subcategory.
420.201 Specialized definitions.
420.202 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
420.203 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
420.204 Reserved.
420.205 Standards of performance for new sources.
420.206 Pretreatment standards for new sources.

Subpart U—Hot Coating—Terne Subcategory

420.210 Applicability; description of the hot coating—terne subcategory.
420.211 Specialized definitions.
420.212 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
420.213 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
420.214 Reserved.
420.215 Standards of performance for new sources.
420.216 Pretreatment standards for new sources.

Subpart V—Miscellaneous Runoffs—Storage Piles, Casting and Slagging Subcategory

420.220 Applicability; description of the miscellaneous runoffs—storage piles, casting and slagging subcategory.
420.221 Specialized definitions.
420.222 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
420.223 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
420.224 Reserved.
420.225 Standards of performance for new sources.
420.226 Pretreatment standards for new sources.

Subpart W—Cooling Water Blowdown Subcategory

420.230 Applicability; description of the cooling water blowdown subcategory.
420.231 Specialized definitions.
420.232 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
420.233 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
420.234 Reserved.
420.235 Standards of performance for new sources.
420.236 Pretreatment standards for new sources.

Subpart X—Utility Blowdown Subcategory

420.240 Applicability; description of the utility blowndown subcategory.
420.241 Specialized definitions.
420.242 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
420.243 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
420.244 Reserved.
420.245 Standards of performance for new sources.
420.246 Pretreatment standards for new sources.

Subpart Y—Maintenance Department Wastes Subcategory

420.250 Applicability; description of the maintenance department wastes subcategory.
420.251 Specialized definitions.
420.252 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
420.253 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
420.254 Reserved.
420.255 Standards of performance for new sources.
420.256 Pretreatment standards for new sources.

Subpart Z—Central Treatment Subcategory

420.260 Applicability; description of the central treatment subcategory.
420.261 Specialized definitions.
420.262 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
420.263 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
420.264 Reserved.
420.265 Standards of performance for new sources.
420.266 Pretreatment standards for new sources.

Subpart M—Hot Forming—Primary Subcategory

§ 420.130 Applicability; description of the hot forming—primary subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the reduction of a hot steel ingot between the surfaces of rotating steel rollers and the intermediate steps, e.g. spray removal of scale, hot scarfing, etc., in the progression of the product to produce slabs and blooms.

§ 420.131 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) The term "product" shall mean bloom or slab.

§ 420.132 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the estsablishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development

Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

(a) Subject to the provisions of paragraph (b) of this section and based upon the application of the best practicable control technology currently available the effluent quality required to be achieved under Section 301(b)(1)(A) of the Act is as set forth in the following table:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.1125	0.0375
TSS	0.3753	0.1250
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.1125	0.0375
TSS	0.3753	0.1250
pH	Within the range 6.0 to 9.0.	

(b) For those hot forming—primary operations that utilize hot scarfing as part of the process, the following effluent limitations are to be added to the base limitations set forth in paragraph (a):

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0375	0.0125
TSS	0.1251	0.0417
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.0375	0.0125
TSS	0.01251	0.0417
pH	Within the range 6.0 to 9.0.	

§ 420.133 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0126	0.0042
TSS	0.0312	0.0104
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.0126	0.0042
TSS	0.0312	0.0104
pH	Within the range 6.0 to 9.0.	

§ 420.134 [Reserved]

§ 420.135 Standards of performance for new sources.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0126	0.0042
TSS	0.0312	0.0104
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.0126	0.0042
TSS	0.0312	0.0104
pH	Within the range 6.0 to 9.0.	

§ 420.136 Pretreatment standard for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the hot forming—primary subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR 128, for existing sources, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132 and 128.133 shall not apply. The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

(a) Subject to the provisions of paragraph (b) of this section the effluent quality required from pretreatment systems shall be as follows:

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.1125	0.0375.
BOD_5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units) lb/1,000 lb of product		
Oil and grease	0.1125	0.0375.
BOD_5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

(b) For those hot forming—primary operations that utilize hot scarfing as part of the process, the following effluent limitations are to be added to the base limitations set forth in paragraph (a):

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0375	0.0125.
BOD_5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units) lb/1,000 lb of product		
Oil and grease	0.0375	0.0125.
BOD_5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

Subpart N—Hot Forming—Section Subcategory

§ 420.140 Applicability; description of the hot forming—section subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the progressive squeezing and shaping of the bloom between a series of rolls to produce a wide variety of shapes including billets, bars, rods, and structural sections.

§ 420.141 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) The term "product" shall mean billet, bar, rod or structural section.

§ 420.142 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.5625	0.1875
TSS	1.8753	0.6251
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.5625	0.1875
TSS	1.8753	0.6251
pH	Within the range 6.0 to 9.0.	

§ 420.143 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0189	0.0063
TSS	0.0468	0.0156
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.0189	0.0063
TSS	0.0468	0.0156
pH	Within the range 6.0 to 9.0.	

§ 420.144 [Reserved]

§ 420.145 Standards of performance for new sources.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0189	0.0063
TSS	0.0468	0.0156
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.0189	0.0063
TSS	0.0468	0.0156
pH	Within the range 6.0 to 9.0.	

§ 420.146 Pretreatment standard for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the hot forming—section subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR 128 for existing sources, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132 and 128.133 shall not apply. The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.5630	0.1877.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units) lb/1,000 lb of product		
Oil and grease	0.5630	0.1877.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

Subpart O—Hot Forming—Flat Subcategory

§ 420.150 Applicability; description of the hot forming—flat subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the reduction of heated slabs to plates, strip and sheet steel, or skelp.

§ 420.151 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) The term "product" shall mean plate, strip and sheet steel, or skelp.

(c) The term "plate" shall mean those flat, hot-rolled, finished products with the following dimensions: between 8 and 48 inches wide and at least 0.23 inches thick; over 48 inches wide and at least 0.18 inches thick. Products less than 8 inches wide, but more than 0.23 inches thick may be considered flat bars, and therefore defined as sections.

§ 420.152 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has

the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

(a) For operations producing plate:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.7500	0.2500
TSS	2.5005	0.8335
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.7500	0.2500
TSS	2.5005	0.8335
pH	Within the range 6.0 to 9.0.	

(b) For all other operations producing flat products (hot strip and sheet):

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	1.0314	0.3438
TSS	3.4383	1.1461
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	1.0321	0.3440
TSS	3.4404	1.1468
pH	Within the range 6.0 to 9.0.	

§ 420.153 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable:

Effluent characteristic	Effluent limitations[1]: Maximum for any 1 day	Effluent limitations[1]: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0189	0.0063
TSS	0.0468	0.0156
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.0189	0.0063
TSS	0.0468	0.0156
pH	Within the range 6.0 to 9.0.	

[1] These limitations apply to either plate, hot strip or sheet.

§ 420.154 [Reserved]

§ 420.155 Standards of performance for new sources.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

Effluent characteristic	Effluent limitations[1]: Maximum for any 1 day	Effluent limitations[1]: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0188	0.0063
TSS	0.0469	0.0156
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.0189	0.0063
TSS	0.0468	0.0156
pH	Within the range 6.0 to 9.0.	

[1] These limitations apply to either plate, hot strip or sheet.

§ 420.156 Pretreatment standard for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the hot forming—flat subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR 128, for existing sources, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132 and 128.133 shall not apply. The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

(a) For operations producing plate:

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.7506	0.2502.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units) lb/1,000 lb of product		
Oil and grease	0.7506	0.2502.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

(b) For all other operations producing flat products:

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	1.0321	0.3440.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units) lb/1,000 lb of product		
Oil and grease	1.0321	0.3440.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

Subpart P—Pipe and Tube Subcategory

§ 420.160 Applicability; description of the pipe and tube subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from operations that produce pipe or tube.

§ 420.161 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) The term "product" shall mean steel tubular products to include welded and seamless products.

§ 420.162 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.2343	0.0781
TSS	0.7815	0.2605
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.2343	0.0781
TSS	0.7815	0.2605
pH	Within the range 6.0 to 9.0.	

§ 420.163 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0189	0.0063
TSS	0.0468	0.0156
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.0189	0.0063
TSS	0.0468	0.0156
pH	Within the range 6.0 to 9.0.	

§ 420.164 [Reserved]

§ 420.165 Standards of performance for new sources.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0189	0.0063
TSS	0.0468	0.0156
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.0189	0.0063
TSS	0.0468	0.0156
pH	Within the range 6.0 to 9.0.	

§ 420.166 Pretreatment standard for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the pipe and tube subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR 128, for existing sources, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132 and 128.133 shall not apply. The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.2346	0.0782.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units) lb/1,000 lb of product		
Oil and grease	0.2346	0.0782.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

Subpart Q—Pickling—Sulfuric Acid—Batch Subcategory

§ 420.170 Applicability; description of the pickling—sulfuric acid—batch subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the immersion of carbon steel batches, e.g.; coiled wire, rods, etc., in a sulfuric acid bath for the chemical removal of scale, and from the rinsing operations which follow such immersion.

§ 420.171 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) The term "product" shall mean any carbon steel material that is pickled, by immersion in sulfuric acid in batch operations, as distinguished from the continuous movement of the steel through the pickling solution.

(c) Vacuum eductor condenser water is considered to be noncontact cooling water.

(d) The term "dissolved iron" shall mean that portion of iron determined utilizing the approved method for total iron following preliminary treatment as described in paragraph 4.1.1, page 86, of the Methods for Chemical Analysis of Water and Waste, 1971, EPA, Analytical Quality Control Laboratory, Cincinnati, Ohio.

§ 420.172 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and

costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

(a) Discharges originating from spent pickling solutions:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.00045	0.00015
TSS	0.0219	0.0073
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Dissolved iron	0.00045	0.00015
TSS	0.0219	0.0073
pH	Within the range 6.0 to 9.0.	

(b) Discharges originating from rinsing operations:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.0025	0.0008
Oil and grease [1]	0.0250	0.0083
TSS	0.1251	0.0417
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Dissolved iron	0.0025	0.00083
Oil and grease [1]	0.0250	0.0083
TSS	0.1251	0.0417
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with cold rolling mill wastes (subpart S).

§ 420.173 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations establish the quantity or quality of pollutants or pollutant properties, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable:

There shall be no discharge of process wastewater pollutants to navigable waters.

§ 420.174 [Reserved]

§ 420.175 Standards of performance for new sources.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, which may be discharged by a new source subject to the provisions of this subpart:

There shall be no discharge of process wastewater pollutants to navigable waters.

§ 420.176 Pretreatment standard for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the pickling—sulfuric acid—batch subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR 128, for existing sources, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132 and 128.133 shall not apply. The following pretreatment standard establishes the quantity of quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

(a) Discharges originating from spent pickling solutions:

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.00045	0.00015.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units) lb/1,000 lb of product		
Dissolved iron	0.00045	0.00015.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

(b) Discharges originating from rinsing operations.

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.0025	0.00083.
Oil and grease [1]	0.0250	0.0083.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units) lb/1,000 lb of product		
Dissolved iron	0.0025	0.00083.
Oil and grease [1]	0.0250	0.0083.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

[1] This load is allowed only when these wastes are pretreated in combination with cold rolling mill wastes (subpart S).

Subpart R—Pickling—Hydrochloric Acid—Batch and Continuous Subcategory

§ 420.180 Applicability; description of the pickling—hydrochloric acid—batch and continuous subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the immersion or continuous movement of carbon steel pieces; e.g., coiled wire, rods, strip, etc.; in a hydrochloric acid bath for the chemical removal of scale, and from the rinsing operations which follow such immersion or continuous movement. These provisions are also intended to apply to wastewaters originating from the operation of absorber vent scrubbers and fume hood scrubbers associated with pickling and acid recovery systems.

§ 420.181 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) The term "product" shall mean any carbon steel material that is pickled in hydrochloric acid.

(c) The term "dissolved iron" shall mean that portion of iron determined utilizing the approved method for total iron following preliminary treatment as described in paragraph 4.1.1, page 86, of the *Methods for Chemical Analysis of Water and Waste*, 1971, EPA, Analytical Quality Control Laboratory, Cincinnati, Ohio.

§ 420.182 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

(a) Subject to the provisions of paragraph (b) of this section and based upon the application of the best practicable control technology currently available, the effluent quality required to be achieved under Section 301(b)(1)(A) of the Act for effluents originating as spent pickling solutions in concentrated form is as set forth in the following table:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.00039	0.00013
TSS	0.0189	0.0063
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Dissolved iron	0.00039	0.00013
TSS	0.0189	0.0063
pH	Within the range 6.0 to 9.0.	

(b) For those pickling operations that have an HCl acid regeneration unit as part of their operation, the following limitations should be substituted in place of those set forth in paragraph (a):

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.00249	0.00083
Oil and grease [1]	0.0249	0.0083
TSS	0.1251	0.0417
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Dissolved iron	0.00249	0.00083
Oil and grease [1]	0.0249	0.0083
TSS	0.1251	0.0417
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with cold rolling wastes (subpart S).

(c) Subject to the provisions of paragraph (d) of this section and based upon the application of the best practicable control technology currently available, the effluent quality required to be achieved under Section 301(b)(1)(A) of the Act for effluents originating from rinsing operations associated with pickling is as set forth in the following table:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.00249	0.00083
Oil and grease [1]	0.0249	0.0083
TSS	0.1251	0.0417
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Dissolved iron	0.00249	0.00083
Oil and grease [1]	0.0249	0.0083
TSS	0.1251	0.0417
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with cold rolling wastes (subpart S).

(d) For those pickling operations that utilize a wet fume hood scrubber over the pickling tanks, the following limitations may be added to those immediately preceding.

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.00063	0.00021
Oil and grease [1]	0.0063	0.0021
TSS	0.0312	0.0104
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Dissolved iron	0.00063	0.00021
Oil and grease [1]	0.0063	0.0021
TSS	0.0312	0.0104
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with cold rolling wastes (subpart S).

§ 420.183 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable:

(a) Subject to the provisions of paragraph (b) of this section and based upon the application of the best available technology economically achievable, the effluent quality required to be achieved under Section 301(b)(2)(A) of the Act for effluent originating as spent pickling solutions in concentrated form is as set forth in the following table:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.00039	0.00013
TSS	0.0093	0.0031
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Dissolved iron	0.00039	0.00013
TSS	0.0093	0.0031
pH	Within the range 6.0 to 9.0.	

(b) For those pickling operations that have an HCl acid regeneration unit as part of their operation, the following limitations should be substituted in place of those set forth in paragraph (a).

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.00039	0.00013
Oil and grease [1]	0.0039	0.0013
TSS	0.0093	0.0031
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Dissolved iron	0.00039	0.00013
Oil and grease [1]	0.0039	0.0013
TSS	0.0093	0.0031
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with cold rolling wastes (subpart S).

(c) Subject to the provisions of paragraph (d) of this section and based upon the application of the best available technology economically achievable, the effluent quality required to be achieved under Section 301(b)(2)(A) of the Act for effluent originating from rinsing operations associated with pickling is as set forth in the following table:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.00063	0.00021
Oil and grease [1]	0.0063	0.0021
TSS	0.0156	0.0052
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of proudduct		
Dissolved iron	0.00063	0.00021
Oil and grease [1]	0.0063	0.0021
TSS	0.0156	0.0052
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with cold rolling wastes (Subpart S).

(d) For those pickling operations that utilize a wet fume hood scrubber over the pickling tanks, the following limitations may be added to those set forth in paragraph (c):

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.00063	0.00021
Oil and grease [1]	0.0063	0.0021
TSS	0.0156	0.0052
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Dissolved iron	0.00063	0.00021
Oil and grease [1]	0.0063	0.0021
TSS	0.0156	0.0052
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with cold rolling wastes (subpart S).

§ 420.184 [Reserved]

§ 420.185 Standards of performance for new sources.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

(a) Subject to the provisions of paragraph (b) of this section and based upon the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, the effluent quality required to be achieved by new sources under Section 306(e) of the Act for effluents originating as spent pickling solution in concentrated form is as set forth in the following table:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.00039	0.00013
TSS	0.0093	0.0031
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Dissolved iron	0.00039	0.00013
TSS	0.0093	0.0031
pH	Within the range 6.0 to 9.0.	

(b) For those pickling operations that have an HCl acid regeneration unit as part of their operation, the following limitations should be substituted in place of those set forth in paragraph (a).

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.00249	0.00083
Oil and grease [1]	0.0249	0.0083
TSS	0.0624	0.0208
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Dissolved iron	0.00249	0.00083
Oil and grease [1]	0.0249	0.0083
TSS	0.0624	0.0208
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with cold rolling wastes (subpart S).

(c) Subject to the provisions of paragraph (d) of this section and based upon the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, the effluent quality required to be achieved by new sources under Section 306(e) of the Act for effluents originating from rinsing operations associated with pickling is as set forth in the following table:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.00063	0.00021
Oil and grease [1]	0.0063	0.0021
TSS	0.0156	0.0052
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Dissolved iron	0.00063	0.00021
Oil and grease [1]	0.0063	0.0021
TSS	0.0156	0.0052
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with cold rolling wastes (subpart S).

(d) For those pickling operations that utilize a wet fume hood scrubber over the pickling tanks, the following limitations may be added to those set forth in paragraph (c):

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.00063	0.00021
Oil and grease [1]	0.0063	0.0021
TSS	0.0156	0.0052
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Dissolved iron	0.00063	0.00021
Oil and grease [1]	0.0063	0.0021
TSS	0.0156	0.0052
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with cold rolling wastes (subpart S).

§ 420.186 Pretreatment standard for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the pickling—hydrochloric acid—batch and continuous subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR 128, for existing sources, except that, for the purpose of this section, 40 CFR 128.-121, 128.122, 128.132 and 128.133 shall not apply. The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

(a) Subject to the provisions of paragraph (b) of this section the effluent quality required from pretreatment systems for effluents originating as spent pickling solutions in concentrated form shall be as follows:

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.00038	0.00013.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units) lb/1,000 lb of product		
Dissolved iron	0.00038	0.00013.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

(b) For the pickling—hydrochloric acid—batch and continuous operations that have an HCl acid regeneration unit as part of their operation, the following limitations should be substituted in place of those set forth in paragraph (a):

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.0025	0.00083.
Oil and grease [1]	0.0250	0.0083.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units) lb/1,000 lb of product		
Dissolved iron	0.0025	0.00083.
Oil and grease [1]	0.0250	0.0083.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

[1] This load is allowed only when these waters are pretreated in combination with cold rolling mill wastes (subpart S).

(c) Subject to the provisions of paragraph (d) of this section the effluent quality required from pretreatment systems for effluents originating from rinsing operations associated with pickling shall be as follows:

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.00063	0.00021.
Oil and grease [1]	0.0063	0.0021.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units) lb/1,000 lb of product		
Dissolved iron	0.00063	0.00021.
Oil and grease [1]	0.0063	0.0021.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

[1] This load is allowed only when these waters are pretreated in combination with cold rolling mill wastes (subpart S).

(d) For those pickling operations that utilize a wet fume hood scrubber over the pickling tanks, the following limitations may be added to those set forth in paragraph (c):

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron	0.00063	0.00021.
Oil and grease [1]	0.0063	0.0021.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units) lb/1,000 lb of product		
Dissolved iron	0.00063	0.00021.
Oil and grease [1]	0.0063	0.0021.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

[1] This load is allowed only when these waters are pretreated in combination with cold rolling mill wastes (subpart S).

Subpart S—Cold Rolling—Subcategory

§ 420.190 Applicability; description of the cold rolling subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the passing of unheated metal through a pair of rolls for the purpose of reducing its thickness, of producing a smooth surface, or of developing controlled mechanical properties in the metal. Depending on product and process requirements, the rolling solutions used to cool and lubricate during the reduction operations may be recirculated throughout all mill stands; applied once-through on all stands; or used in various combinations of recirculation and direct application.

§ 420.191 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and meth-

ods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) The term "product" shall mean any carbon steel material that is cold rolled.

(c) The term "recirculation" shall mean an operating mode utilizing reuse of solutions at all stands of the cold rolling mill.

(d) The term "combination" shall mean an operating mode utilizing reuse and recirculation at some stands of the cold rolling mill, and once-through use at the remaining stand or stands.

(e) The term "direct application" shall mean an operating mode utilizing once-through solution addition at all stands.

§ 420.192 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

(a) For plants utilizing recirculation on all stands:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.00312	0.00104
TSS	0.0078	0.0026
Dissolved iron [1]	0.000312	0.000104
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.00312	0.00104
TSS	0.0078	0.0026
Dissolved iron [1]	0.0003	0.00011
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with pickling operation wastewaters (subparts Q or R).

(b) For plants utilizing combinations of operating modes:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0501	0.0167
TSS	0.1251	0.0417
Dissolved iron [1]	0.00501	0.00167
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.0501	0.0167
TSS	0.1251	0.0417
Dissolved iron [1]	0.00501	0.00167
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with pickling operation wastewaters (subparts Q or R).

(c) For plants utilizing direct application on all stands:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.1251	0.0417
TSS	0.3126	0.1042
Dissolved iron [1]	0.0126	0.0042
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.1251	0.0417
TSS	0.3126	0.1040
Dissolved iron [1]	0.0126	0.0042
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with pickling operation wastewaters (subparts Q or R).

§ 420.193 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable:

(a) For plants utilizing recirculation on all stands:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.00312	0.00104
TSS	0.0078	0.0026
Dissolved iron [1]	0.000312	0.000104
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.00312	0.00104
TSS	0.0078	0.0026
Dissolved iron [1]	0.000312	0.000104
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with pickling operation wastewaters (subpart Q or R).

(b) For plants utilizing combinations of operating modes:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0510	0.0167
TSS	0.1251	0.0417
Dissolved iron [1]	0.0051	0.0017
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.0501	0.0167
TSS	0.1251	0.0417
Dissolved iron [1]	0.0051	0.0017
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with pickling operation wastewaters (subparts Q or R).

(c) For plants utilizing direct application on all stands:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.1251	0.0417
TSS	0.3126	0.1042
Dissolved iron [1]	0.0126	0.0042
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.1251	0.0417
TSS	0.3126	0.1042
Dissolved iron [1]	0.0126	0.0042
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with pickling operation wastewaters (subparts Q or R).

§ 420.194 [Reserved]

§ 420.195 Standards of performance for new sources.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

(a) For plants utilizing recirculation on all stands:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.00312	0.00104
TSS	0.0078	0.0026
Dissolved iron [1]	0.000312	0.000104
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.00312	0.00104
TSS	0.0078	0.0026
Dissolved iron [1]	0.000312	0.00104
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with pickling operation wastewaters (subparts Q or R).

(b) For plants utilizing combinations of operating modes:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0501	0.0167
TSS	0.1251	0.0417
Dissolved iron [1]	0.0051	0.0017
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.0501	0.0167
TSS	0.1251	0.0417
Dissolved iron [1]	0.0051	0.0017
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with pickling operation wastewaters (subparts Q and R).

(c) For plants utilizing direct application on all stands:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.1251	0.0417
TSS	0.3126	0.1042
Dissolved iron [1]	0.0126	0.0042
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.1251	0.0417
TSS	0.3126	0.1042
Dissolved iron [1]	0.0126	0.0042
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with pickling operation wastewaters (subparts Q or R).

§ 420.196 Pretreatment standard for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the cold rolling subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR 128, for existing sources, except that, for the purpose of this section, 40 CRF 128.121, 128.122, 128.132 and 128.133 shall not apply. The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

(a) For plants utilizing recirculation on all stands:

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Dissolved iron [1]	0.00033	0.00011.
Oil and grease	0.0031	0.00104.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units) lb/1,000 lb of product		
Dissolved iron [1]	0.00033	0.00011.
Oil and grease	0.0031	0.00104.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

[1] This load is allowed only when these wastes are pretreated in combination with pickling operation wastewaters wastes (subparts Q or R).

(b) For plants utilizing combinations of operating modes:

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units)	kg/kkg of product	
Dissolved iron [1]	0.0050	0.0017.
Oil and grease	0.0500	0.0167.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units)	lb/1,000 lb of product	
Dissolved iron [1]	0.0050	0.0017.
Oil and grease	0.0500	0.0167.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

[1] This load is allowed only when these wastes are pretreated in combination with picking operationl wastewaters (subparts Q or R).

(c) For plants utilizing direct application on all stands:

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units)	kg/kkg of product	
Dissolved iron [1]	0.0125	0.00417.
Oil and grease	0.1250	0.0417.
BOD5	No limitation.	No limitation.
TSS	do	Do.
pH	do	Do.
(English units)	lb/1,000 lb of product	
Dissolved iron [1]	0.0125	0.00417.
Oil and grease	0.1250	0.0417.
BOD5	No limitation.	No limitation.
TSS	do	Do.
pH	do	Do.

[1] This load is allowed only when these wastes are pretreated in combination with pickling operation wastewaters (subparts Q or R).

Subpart T—Hot Coatings—Galvanizing Subcategory

§ 420.200 Applicability; description of the hot coating—galvanizing subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the operations pertinent to the immersion of steel in a molten bath of zinc metal, inclusive of the operations preceding and subsequent to the dip phase.

§ 420.201 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) The term "product" shall mean any carbon steel material that follows the steps relative to the production of a hot dipped, galvanized product.

§ 420.202 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available, and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

(a) Subject to the provisions of paragraph (b) of this section and based upon the application of the best practicable control technology currently available the effluent quality required to be achieved under Section 301(b)(1)(A) of the Act is as set forth in the following table:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.1125	0.0375
TSS	0.3750	0.1250
Zinc	0.0375	0.0125
Chromium	0.0225	0.0075
Hexavalent chromium.	0.0001	0.00005
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.1125	0.0375
TSS	0.3750	0.1250
Zinc	0.0375	0.0125
Chromium	0.0225	0.0075
Hexavalent chromium.	0.00015	0.00005
pH	Within the range 6.0 to 9.0.	

(b) For those installations that utilize a wet fume hood scrubber as part of the coating operation, the following limitations apply in addition to those set forth in paragraph (a):

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.1125	0.0375
TSS	0.3750	0.1250
Zinc	0.0375	0.0125
Chromium	0.0225	0.0075
Hexavalent chromium.	0.00015	0.00005
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.1125	0.0375
TSS	0.3750	0.1250
Zinc	0.0375	0.0125
Chromium	0.0225	0.0075
Hexavalent chromium.	0.00015	0.00005
pH	Within the range 6.0 to 9.0.	

§ 420.203 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable:

(a) Subject to the provisions of paragraph (b) of this section and based upon the application of the best practicable control technology currently available the effluent quality required to be achieved under Section 301(b)(1)(A) of the Act is as set forth in the following table:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0126	0.0042
TSS	0.0312	0.0104
Zinc	0.00249	0.00083
Chromium	0.000252	0.000084
Hexavalent chromium.	0.000024	0.000008
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.0126	0.0042
TSS	0.0312	0.0104
Zinc	0.00249	0.00083
Chromium	0.000252	0.000084
Hexavalent chromium.	0.000024	0.000008
pH	Within the range 6.0 to 9.0.	

(b) For those installations that utilize a wet fume hood scrubber as part of the coating operation, the following limitations apply in addition to those set forth in paragraph (a):

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0189	0.0063
TSS	0.0468	0.0156
Zinc	0.00375	0.00125
Chromium	0.000378	0.000126
Hexavalent chromium.	0.000039	0.000013
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and greaseg	0.0189	0.0063
TSS	0.0468	0.0156
Zinc	0.00375	0.00125
Chromium	0.000378	0.000126
Hexavalent chromium.	0.000039	0.000013
pH	Within the range 6.0 to 9.0.	

§ 420.204 [Reserved]

§ 420.205 Standards of performance for new sources.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be

discharged by a new source subject to the provisions of this subpart:

(a) Subject to the provisions of paragraph (b) of this section and based upon the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, the effluent quality required to be achieved by new sources under Section 306(e) of the Act is as set forth in the following table:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0750	0.0250
TSS	0.1875	0.0625
Zinc	0.0150	0.0050
Chromium	0.00150	0.00050
Hexavalent chromium	0.00015	0.00005
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.0750	0.0250
TSS	0.1875	0.0625
Zinc	0.0150	0.0050
Chromium	0.00150	0.00050
Hexavalent chromium	0.00015	0.00005
pH	Within the range 6.0 to 9.0.	

(b) For those installations that utilize a wet fume hood scrubber as part of the coating operation, the following limitations apply in addition to those set forth in paragraph (a):

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0750	0.0250
TSS	0.1875	0.0625
Zinc	0.0150	0.0050
Chromium	0.00150	0.00050
Hexavalent chromium.	0.00015	0.00005
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.0750	0.0250
TSS	0.1875	0.0625
Zinc	0.0150	0.0050
Chromium	0.00150	0.00050
Hexavalent chromium.	0.00015	0.00005
pH	Within the range 6.0 to 9.0.	

§ 420.206 Pretreatment standard for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the hot coatings—galvanizing subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR 128, for existing sources, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132 and 128.133 shall not apply. The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

(a) Subject to the provisions of paragraph (b) of this section the effluent quality required from pretreatment systems shall be as follows:

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Hexavalent chromium.	0.00015	0.00005.
Zinc	0.0375	0.0125.
Chromium	0.0225	0.0075.
Oil and grease	0.1125	0.0375.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units) lb/1,000 lb of product		
Hexavalent chromium.	0.00015	0.00005.
Zinc	0.0375	0.0125.
Chromium	0.0225	0.0075.
Oil and grease	0.1125	0.0375.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

(b) For those installations that utilize a wet fume hood scrubber as part of the coating operation, the following limitations apply in addition to those set forth in paragraph (a):

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
Metric units kg/kkg of product		
Hexavalent chromium.	0.00015	0.00005.
Zinc	0.0375	0.0125.
Chromium	0.0225	0.0075.
Oil and grease	0.1125	0.0375.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units) lb/1,000 lb of product		
Hexavalent chromium.	0.00015	0.00005.
Zinc	0.0375	0.0125.
Chromium	0.0225	0.0075.
Oil and grease	0.1125	0.0375.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

Subpart U—Hot Coatings—Terne Subcategory

§ 420.210 Applicability; description of the hot coatings—terne subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the operations pertinent to the immersion of steel in a molten bath of lead and tin metals, inclusive of the operations preceding and subsequent to the dip phase.

§ 420.211 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) The term "product" shall mean any carbon steel material that follows the steps relative to the production of a hot dipped, terne coated product.

§ 420.212 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

(a) Subject to the provisions of paragraph (b) of this section and based upon the application of the best practicable control technology currently available

the effluent quality required to be achieved under Section 301(b)(1)(A) of the Act is as set forth in the following:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.1125	0.0375
TSS	0.3750	0.1250
Lead	0.00375	0.00125
Tin	0.0375	0.0125
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.1125	0.0375
TSS	0.3750	0.1250
Lead	0.00375	0.00125
Tin	0.0375	0.0125
pH	Within the range 6.0 to 9.0.	

(b) For those installations that utilize a wet fume hood scrubber as part of the coating operation, the following limitations apply in addition to those set forth in paragraph (a):

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.1125	0.0375
TSS	0.3750	0.1250
Lead	0.00375	0.00125
Tin	0.0375	0.0125
pH	Within the range 6.0 to 9.0.	
(English units) lb/1000 lb of product		
Oil and grease	0.1125	0.0375
TSS	0.3750	0.1250
Lead	0.00375	0.00125
Tin	0.0375	0.0125
pH	Within the range 6.0 to 9.0.	

§ 420.213 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable:

(a) Subject to the provisions of paragraph (b) of this section and based upon the application of the best available technology economically available, the effluent quality required to be achieved under Section 301(b)(2)(A) of the Act is as set forth in the following:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0126	0.0042
TSS	0.0312	0.0104
Lead	0.000312	0.000104
Tin	0.00249	0.00083
pH	Within the range 6.0 to 9.0.	
(English units) lb/1000 lb of product		
Oil and grease	0.0126	0.0042
TSS	0.0312	0.0104
Lead	0.000312	0.000104
Tin	0.00249	0.00083
pH	Within the range 6.0 to 9.0.	

(b) For those installations that utilize a wet fume hood scrubber as part of the coating operation, the following limitations apply in addition to those set forth in paragraph (a):

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0189	0.0063
TSS	0.0468	0.0156
Lead	0.000468	0.000156
Tin	0.00375	0.00125
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.0189	0.0063
TSS	0.0468	0.0156
Lead	0.000468	0.000156
Tin	0.00375	0.00125
pH	Within the range 6.0 to 9.0.	

§ 420.214 [Reserved]

§ 420.215 Standards of performance for new sources.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

(a) Subject to the provisions of paragraph (b) of this section and based upon the application of the best available demonstrated control technology, processes, operating methods, or other alternatives, the effluent quality required to be achieved by new sources under Section 306(e) of the Act is as set forth in the following table:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0750	0.0250
TSS	0.1875	0.0625
Lead	0.00189	0.00063
Tin	0.0150	0.0050
pH	Within the range 6.0 to 9.0.	
(English units) lb/1000 lb of product		
Oil and grease	0.0750	0.0250
TSS	0.1875	0.0625
Lead	0.00189	0.00063
Tin	0.0150	0.0050
pH	Within the range 6.0 to 9.0.	

(b) For those installations that utilize a wet fume hood scrubber as part of the coating operation, the following limitations apply in addition to those set forth in paragraph (a):

Effluent characteristic	Effluent Limitations: Maximum for any 1 day	Effluent Limitations: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Oil and grease	0.0750	0.0250
TSS	0.1875	0.0625
Lead	0.00189	0.00063
Tin	0.0150	0.0050
pH	Within the range 6.0 to 9.0.	
(English units) lb/1,000 lb of product		
Oil and grease	0.0750	0.0250
TSS	0.1875	0.0625
Lead	0.00189	0.00063
Tin	0.0150	0.0050
pH	Within the range 6.0 to 9.0.	

§ 420.216 Pretreatment standard for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the hot coatings—terne subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR 128, for existing sources, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132 and 128.133 shall not apply. The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

(a) Subject to the provisions of paragraph (b) of this section the effluent quality required from pretreatment systems shall be as follows:

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Tin	0.0150	0.0050.
Lead	0.0019	0.00063.
Oil and grease	0.0750	0.0250.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units) lb/1,000 lb of product		
Tin	0.0150	0.0050.
Lead	0.0019	0.00063.
Oil and grease	0.0750	0.0250.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

(b) For those installations that utilize a wet fume hood scrubber as part of the coating operation, the following limitations apply in addition to those set forth in paragraph (a):

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
(Metric units) kg/kkg of product		
Tin	0.0150	0.0050.
Lead	0.0019	0.00063.
Oil and grease	0.0750	0.0250.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
(English units) lb/1,000 lb of product		
Tin	0.0150	0.0050.
Lead	0.0019	0.00063.
Oil and grease	0.0750	0.0250.
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

Subpart V—Miscellaneous Runoffs—Storage Piles, Casting, and Slagging Subcategory

§ 420.220 Applicability; description of the miscellaneous runoffs—storage piles, casting, and slagging subcategory.

The provisions of this subpart are applicable to surface runoff from coal, limestone, and ore storage piles, and to discharges from the casting or slagging operations associated with iron and steel making processes.

§ 420.221 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

§ 420.222 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administration (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

(a) Discharges from coal, limestone and ore storage piles: No limitations are established for BPCTCA.

(b) Discharges from casting or slagging operations:

There shall be no discharge of process (i.e., contact) wastewater pollutants to navigable waters.

§ 420.223 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable:

(a) Discharges from coal, limestone and ore storage piles:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
TSS	75 mg/l [1]	25 mg/l.[1]
pH	Within the range 6.0 to 9.0.	

[1] This concentration applies only when the rainfall rate is 2.5 in per day or less.

(b) Discharges from casting of slagging operations:

There shall be no discharge of process (i.e. contact) wastewater pollutants to navigable waters.

§ 420.224 [Reserved]

§ 420.225 Standards of performance for new sources.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

(a) Discharges from coal, limestone and ore storage piles:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
TSS	75mg/l [1]	25 mg/l [1].
pH	Within the range 6.0 to 9.0.	

[1] This concentration applies only when the rainfall rate is 2.5 in. per day or less.

(b) Discharges from casting or slagging operations:

There shall be no discharge of process (i.e. contact) wastewater pollutants to navigable waters.

§ 420.226 Pretreatment standard for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the miscellaneous runoff—storage piles casting and slagging subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR 128, for existing sources, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132 and 128.133 shall not apply. The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this sec-

tion which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

Pollutant or pollutant property	Pretreatment standard	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

Subpart W—Cooling Water Blowdown Subcategory

§ 420.230 Applicability; description of the cooling water blowdown subcategory.

The provisions of this subpart are applicable to discharges resulting from the use of recirculating noncontact cooling water systems in various steel mill processes.

§ 420.231 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

§ 420.232 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available.

Allowable load for discharge will be the loads determined by multiplying the measured flow by the following concentrations:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
	mg/l	mg/l
Phosphorus	24.0	8
Chromium	9.0	3.0
Hexavalent chromium.	0.06	0.02
TSS	150.0	50
Zinc	15.0	5.0
pH	Within the range 6.0 to 9.0.	

§ 420.233 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable.

Allowable load for discharge will be the loads determined by multiplying the measured flow by the following concentrations:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
	mg/l	mg/l
Phosphorus	24.0	8
Chromium	0.6	0.2
Hexavalent chromium.	0.06	0.02
TSS	75	25
Zinc	6.0	2.0
pH	Within the range 6.0 to 9.0.	

§ 420.234 [Reserved]

§ 420.235 Standards of performance for new sources.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart.

Allowable load for discharge will be the loads determined by multiplying the measured flow by the following concentrations:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
	mg/l	mg/l
Phosphorus	24.0	8
Chromium	0.6	0.2
Hexavalent chromium.	0.06	0.02
TSS	75	25
Zinc	6.0	2.0
pH	Within the range 6.0 to 9.0.	

§ 420.236 Pretreatment standard for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the cooling water blowdown subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR 128, for existing sources, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132 and 128.133 shall not apply. The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

Pollutant or pollutant property	Pretreatment standard	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
	mg/l	mg/l
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
Zinc	6	2.
Hexavalent chromium.	0.06	0.02.
Chromium	0.3	0.1.
Phosphorus	24.0	8.0.

Subpart X—Utility Blowdown Subcategory

§ 420.240 Applicability; description of the utility blowdown subcategory.

The provisions of this subpart are applicable to discharges resulting from the preparation and treatment of water for use in the plant and in the generation of steam or electricity.

§ 420.241 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

§ 420.242 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available.

Allowable load for discharge will be the loads determined by multiplying the measured flow by the following concentrations:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
	mg/l	mg/l
TSS	150	50
pH	Within the range 6.0 to 9.0.	

§ 420.243 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable.

Allowable load for discharge will be the loads determined by multiplying the measured flow by the following concentrations:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
	mg/l	mg/l
TSS	75	25
pH	Within the range 6.0 to 9.0.	

§ 420.244 [Reserved]

§ 420.245 Standards of performance for new sources.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart.

Allowable load for discharge will be the loads determined by multiplying the measured flow by the following concentrations:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
	mg/l	mg/l
TSS	75	25
pH	Within the range 6.0 to 9.0.	

§ 420.246 Pretreatment standard for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the utility blowdown subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR 128, for existing sources, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132 and 128.133 shall not apply. The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
BOD_5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.

Subpart Y—Maintenance Department Wastes Subcategory

§ 420.250 Applicability; description of the maintenance department wastes subcategory.

The provisions of this subpart are applicable to discharges resulting from the operations necessary for repairing, cleaning, and general upkeep of parts and equipment that are integral components of steel plant processes or operations.

§ 420.251 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

§ 420.252 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharge effluent limitations in the NPDES permit either more or less stringent than the limitations established

herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limtations, or initiate proceednge to revise these regulations.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available.

Allowable load for discharge will be the loads determined by multiplying the measured flow by the following concentrations:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
	mg/l	mg/l
Oil and grease	45	15
TSS	150	50
pH	Within the range 6.0 to 9.0.	

§ 420.253 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable.

Allowable load for discharge will be the loads determined by multiplying the measured flow by the following concentrations:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
	mg/l	mg/l
Oil and grease	30	10
TSS	75	25
pH	Within the range 6.0 to 9.0.	

§ 420.254 [Reserved]

§ 420.255 Standards of performance for new sources.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
	mg/l	mg/l
Oil and grease	30	10
TSS	75	25
pH	Within the range 6.0 to 9.0.	

§ 420.256 Pretreatment standard for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the maintenance department waste subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR 128 (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the same standard as set forth in 40 CFR 128, for existing sources, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132 and 128.133 shall not apply. The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

Pollutant or pollutant property	Pretreatment standard	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
	mg/l	mg/l
BOD5	No limitation	No limitation.
TSS	do	Do.
pH	do	Do.
Oil and grease	300	100.

Subpart Z—Central Treatment Subcategory

§ 420.260 Applicability; description of the central treatment subcategory.

The provisions of this subpart are applicable to discharges from existing central treatment facilities.

§ 420.261 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) A central treatment facility is any waste treatment facility which is treating waste from a combination of regulated sources or semi-regulated sources and from unregulated sources.

(c) Regulated sources are those sources wherein the flows are limited, i.e., Subparts A through V.

(d) Semi-regulated sources are those sources wherein the concentrations are limited but the flows are not limited, i.e., Subparts W, X, and Y.

(e) Unregulated sources are those sources such as cooling water, etc., for which no specific regulation applies.

§ 420.262 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available.

Allowable loads for discharge will be the sum of the loads from the regulated sources plus the loads from the semi-regulated sources and the unregulated sources. Loads from the semi-regulated sources are determined from the measured flow and the concentrations appropriate to that source. Loads from the unregulated sources are determined from the flows from the unregulated sources multiplied by the following concentrations:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
	mg/l	mg/l
Dissolved iron	3	1
Oil and grease	45	15
TSS	150	50
Zn	15	5
Cr^{+6}	0.06	0.02
Cr	0.9	0.3
Phosphorus	24	8

§ 420.263 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable.

Allowable loads for discharge will be the sum of the loads from the regulated sources plus the loads from the semi-regulated sources and the unregulated sources. Loads from the semi-regulated sources are determined from the measured flow and the concentrations appropriate to that source. Loads from the unregulated sources multiplied by the following concentrations:

Effluent characteristic	Effluent limitations, mg/l	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Dissolved iron	3	1
Oil and grease	30	10
TSS	75	25
Zn	6	2
Cr^{+6}	0.06	0.02
Cr	0.6	0.2
Phosphorus	24	8

§ 420.264 [Reserved]

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